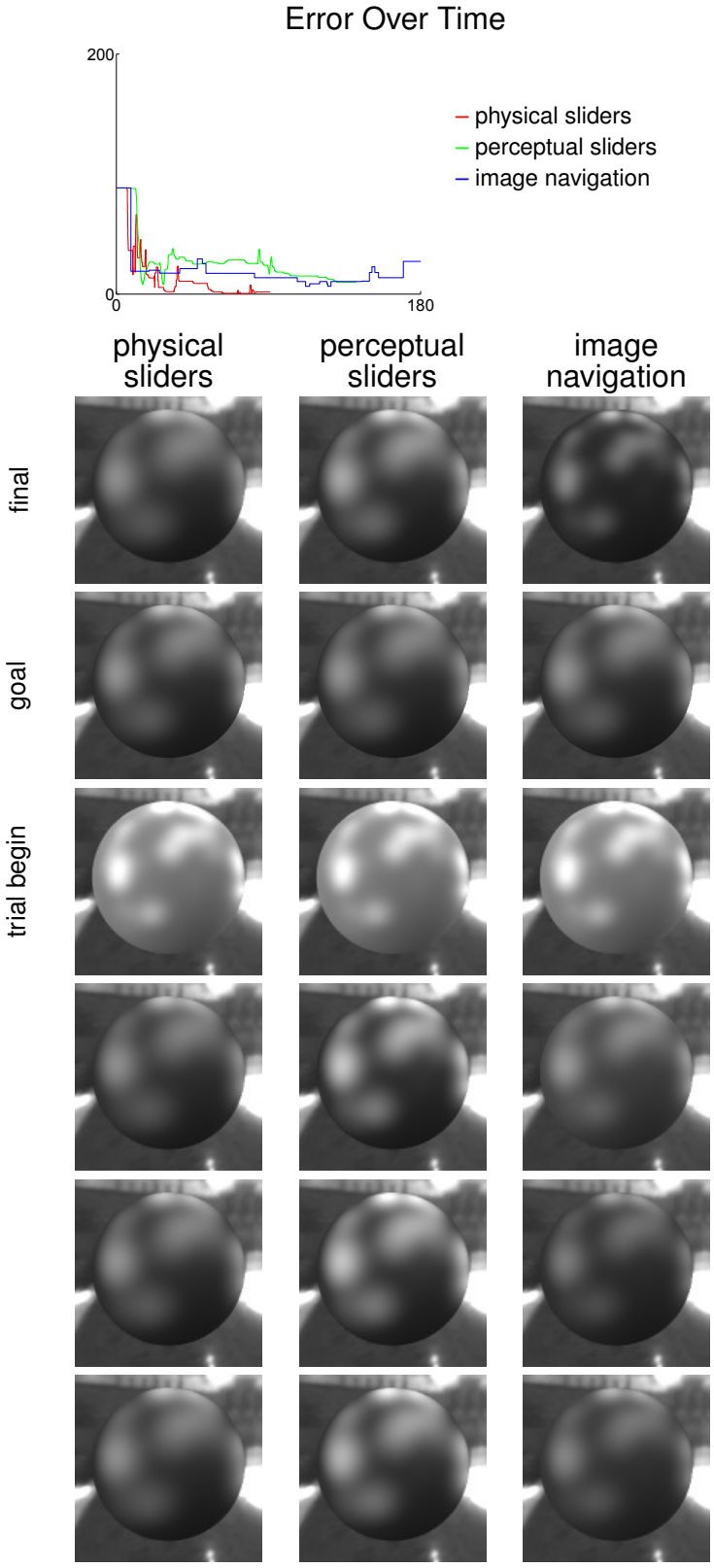
Toward Evaluating Material Design Interface Paradigms for Novice Users

William B. Kerr **Fabio Pellacini**
Dartmouth College

Subjects editing materials with three material design interfaces

Subject 1

Trial 1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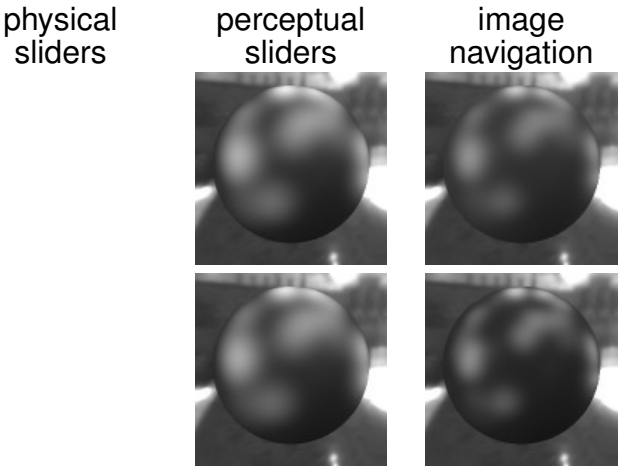
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin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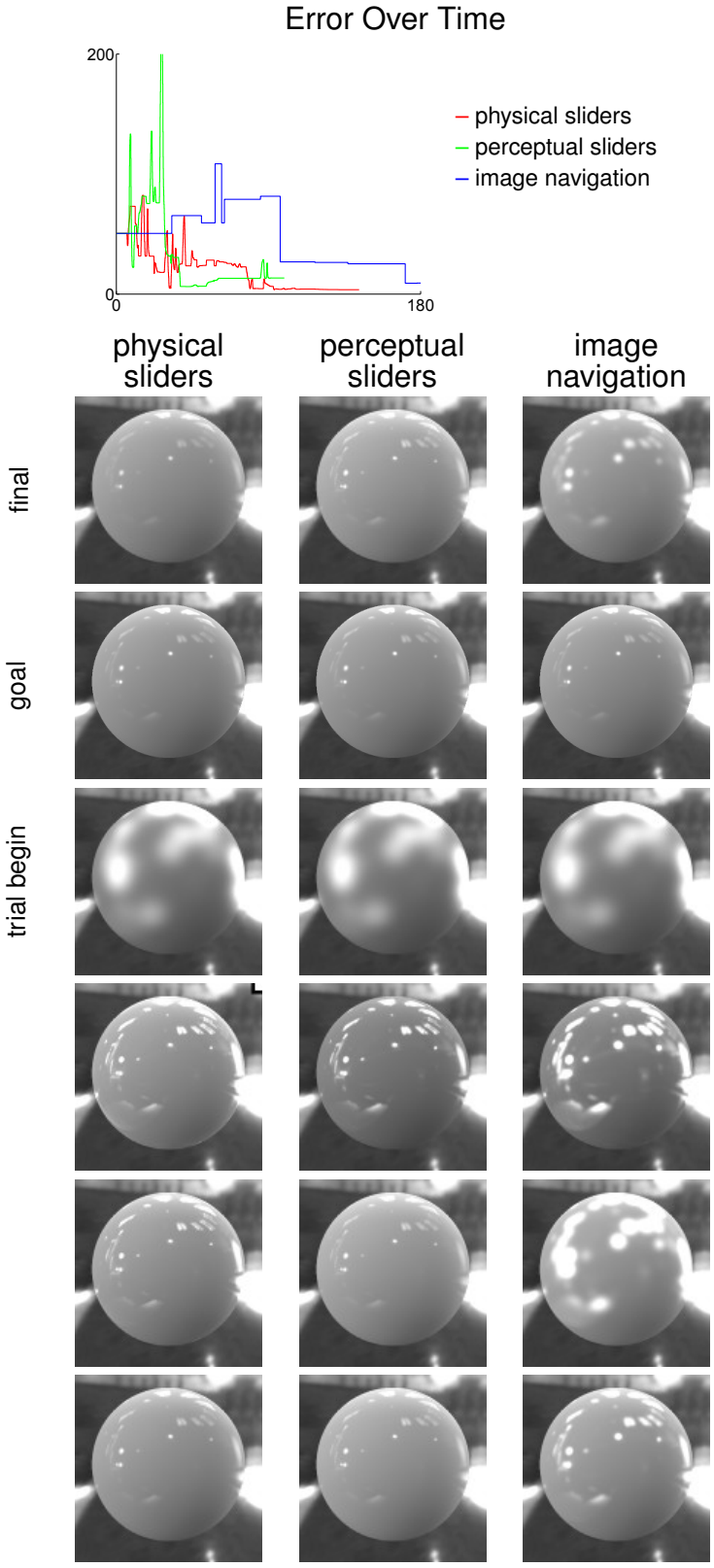
perceptual sliders
image navigation

Trial 2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perceptual sliders
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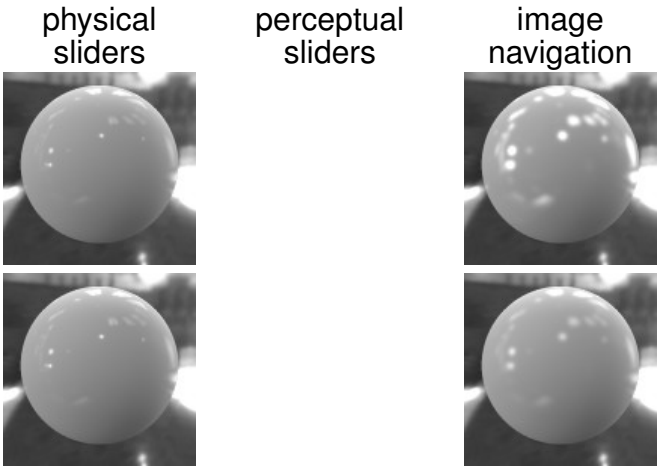
perceptual sliders
image navigation
final
goal
trial begin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perceptual
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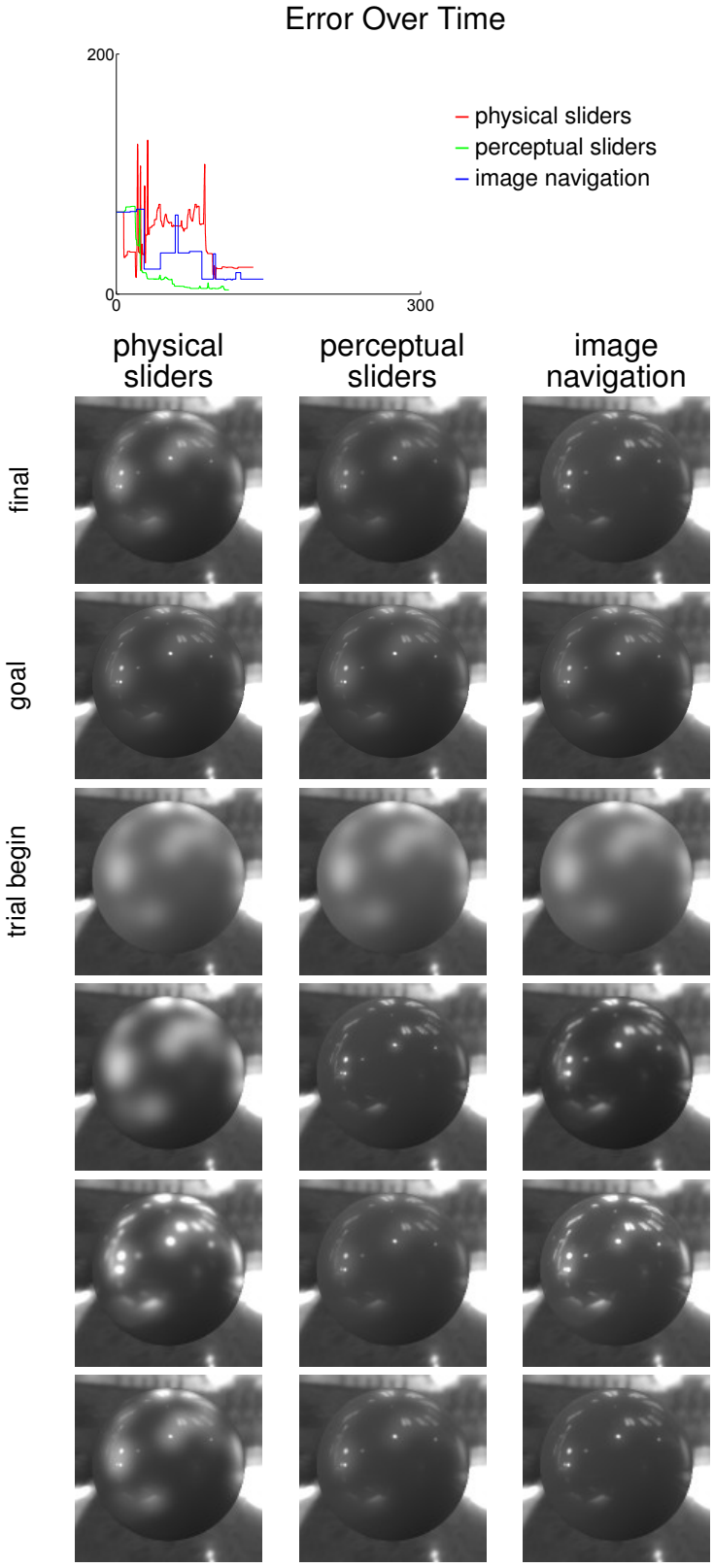
Trial 3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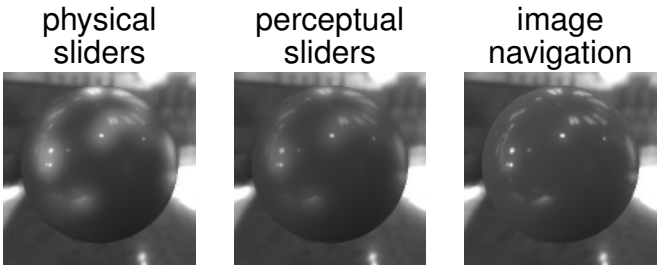
perceptual sliders
image navigation
final
goal
trial begin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perceptual sliders
image navigation

Trial 4

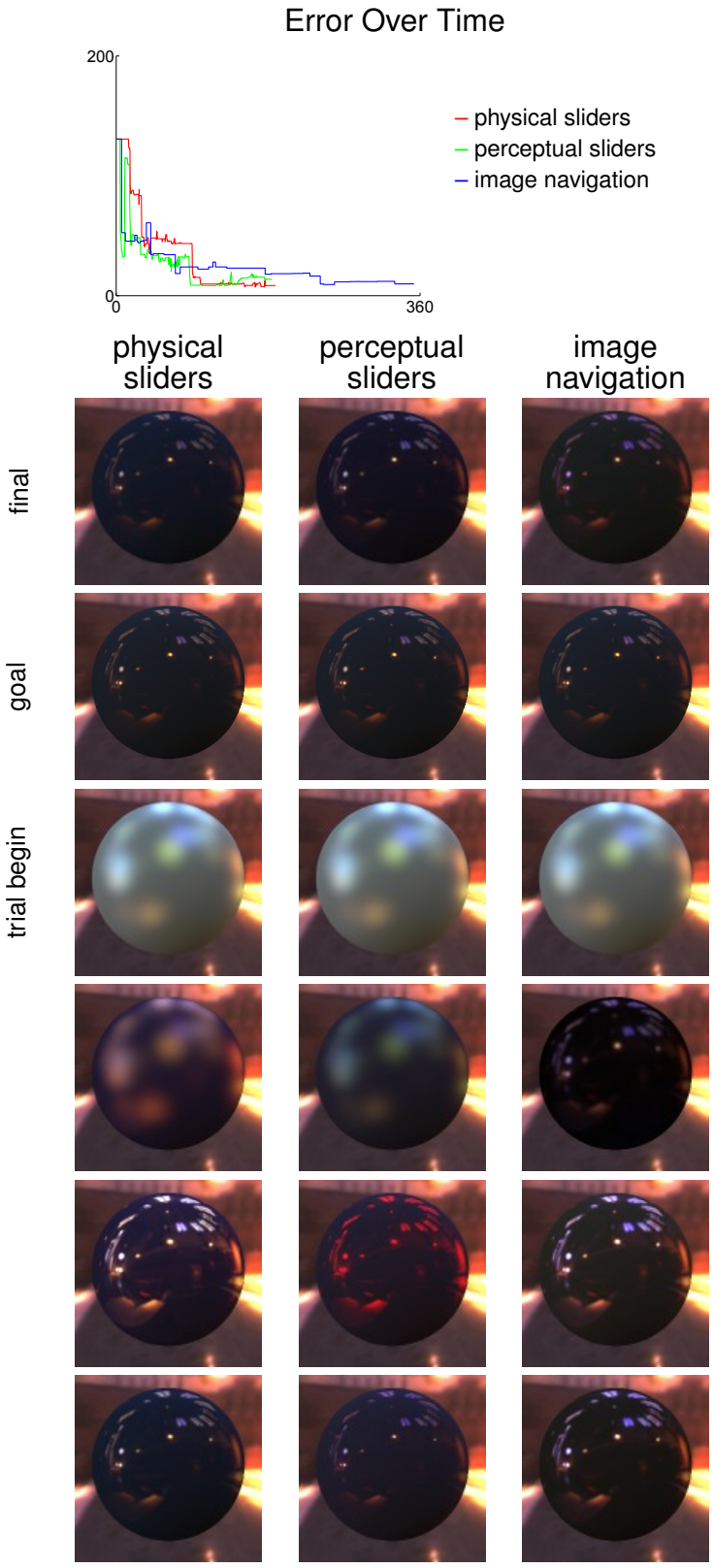
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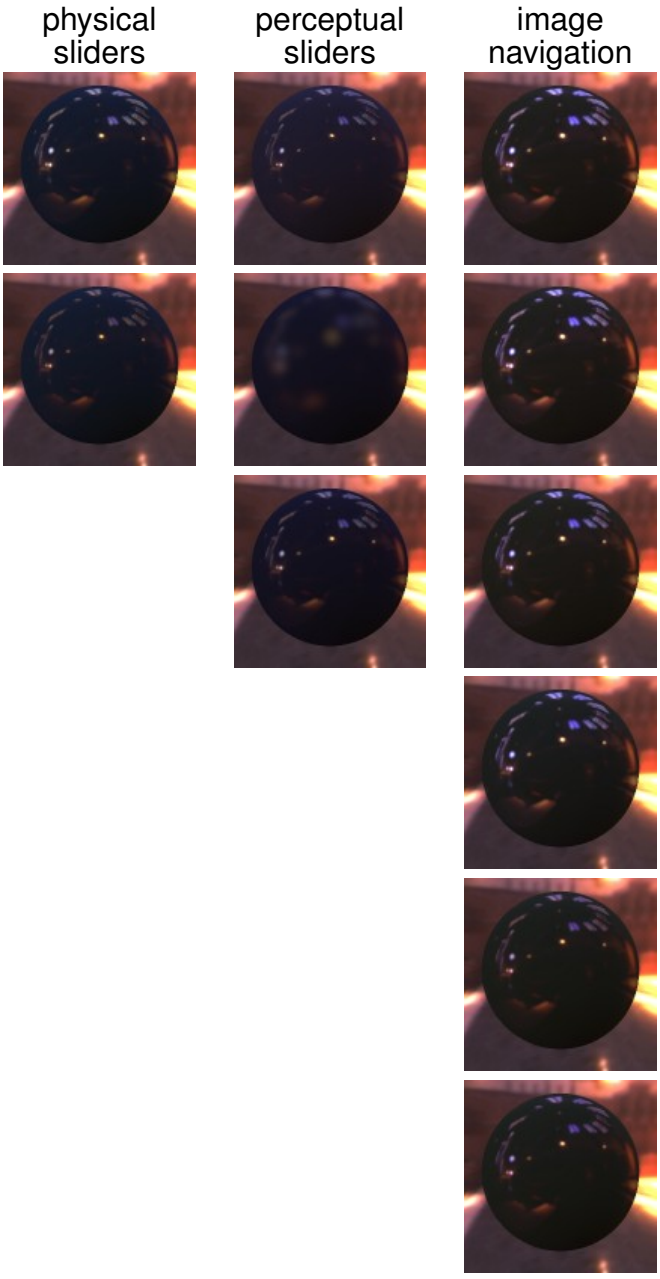
image navigation
final
goal
trial begin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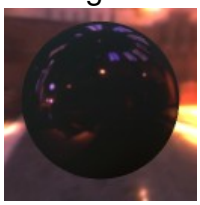
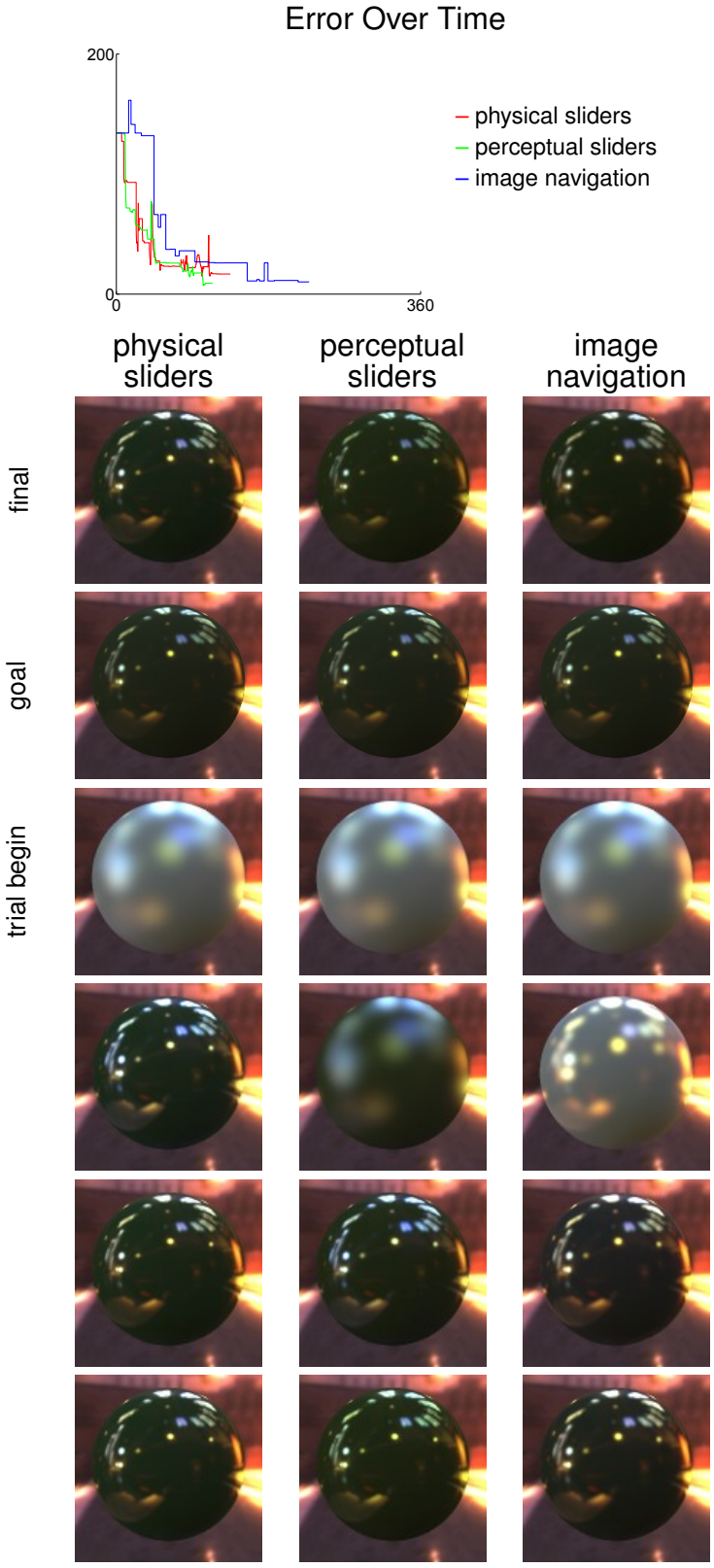
physical sliders

perceptual sliders

image navigation



Trial 5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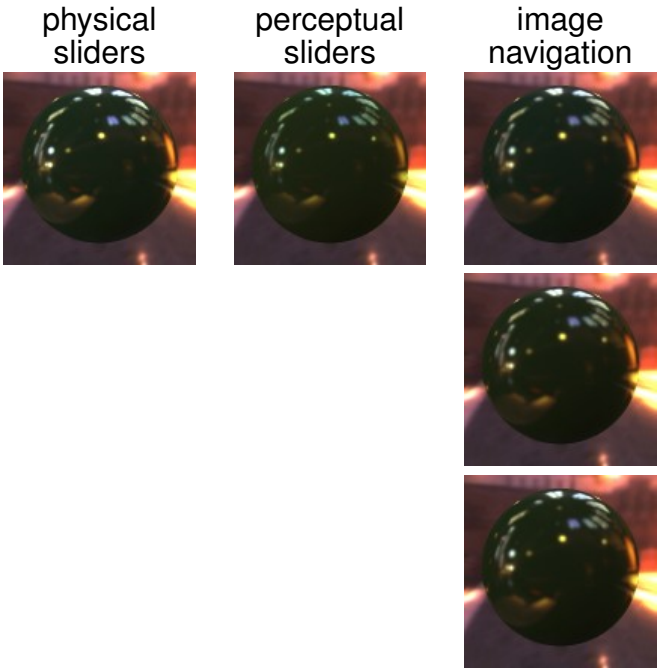
final
goal
trial begin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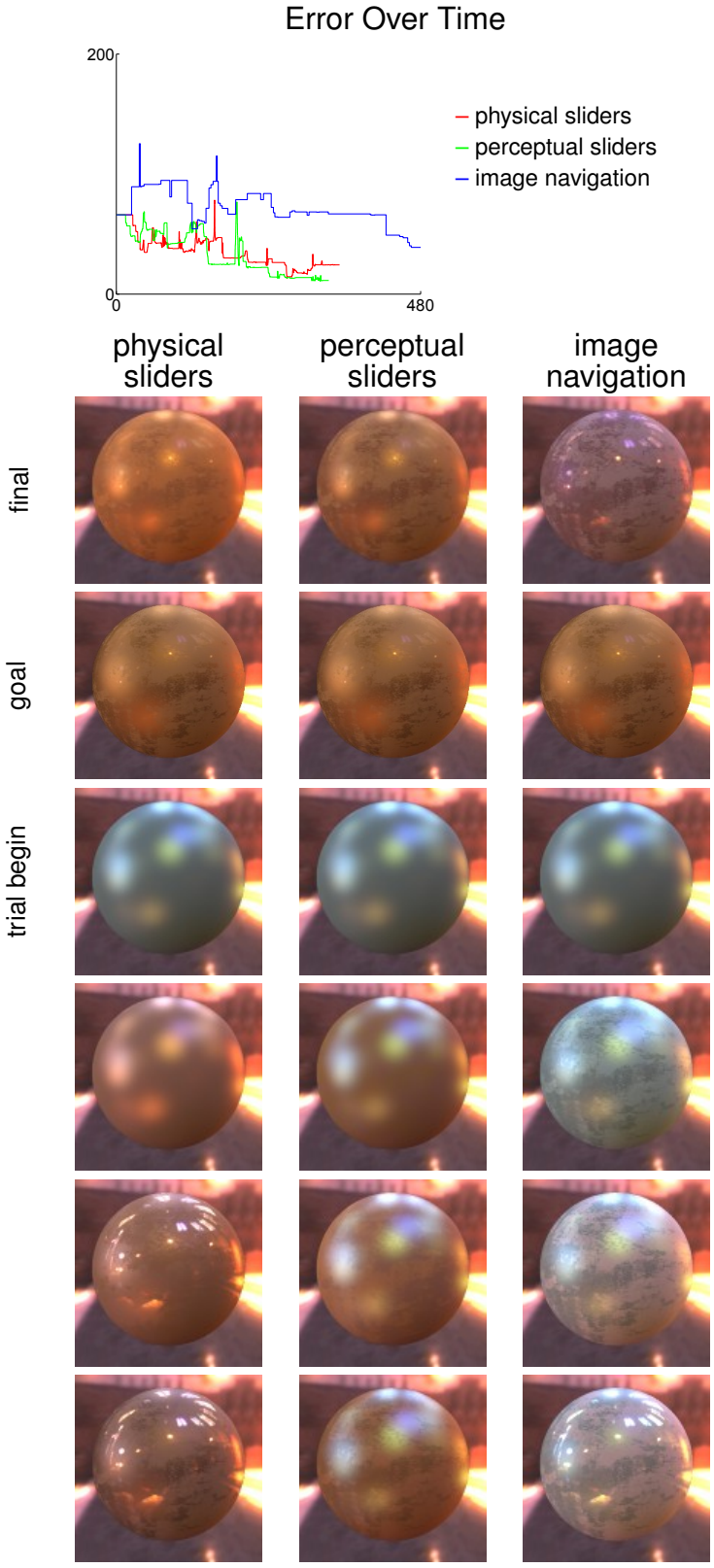
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perceptual sliders
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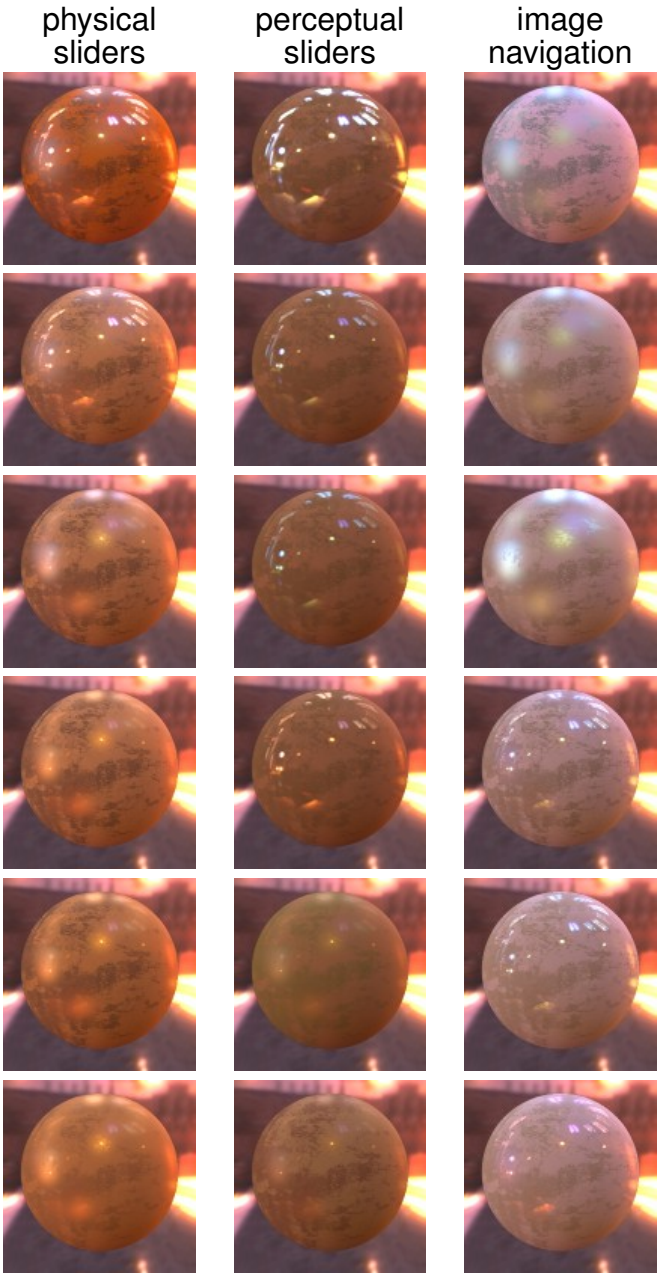
perceptual sliders
image navigation
final
goal
trial begin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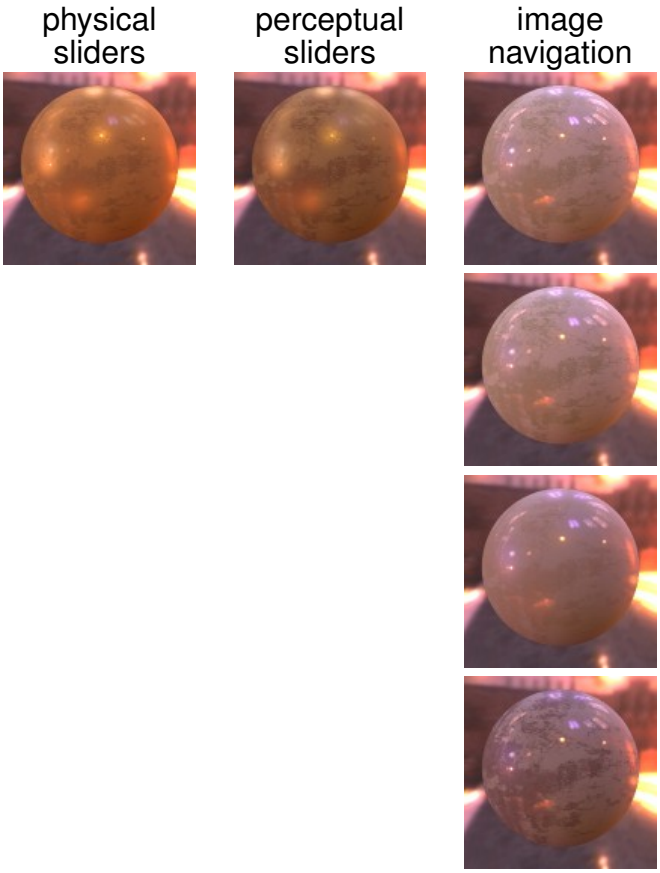
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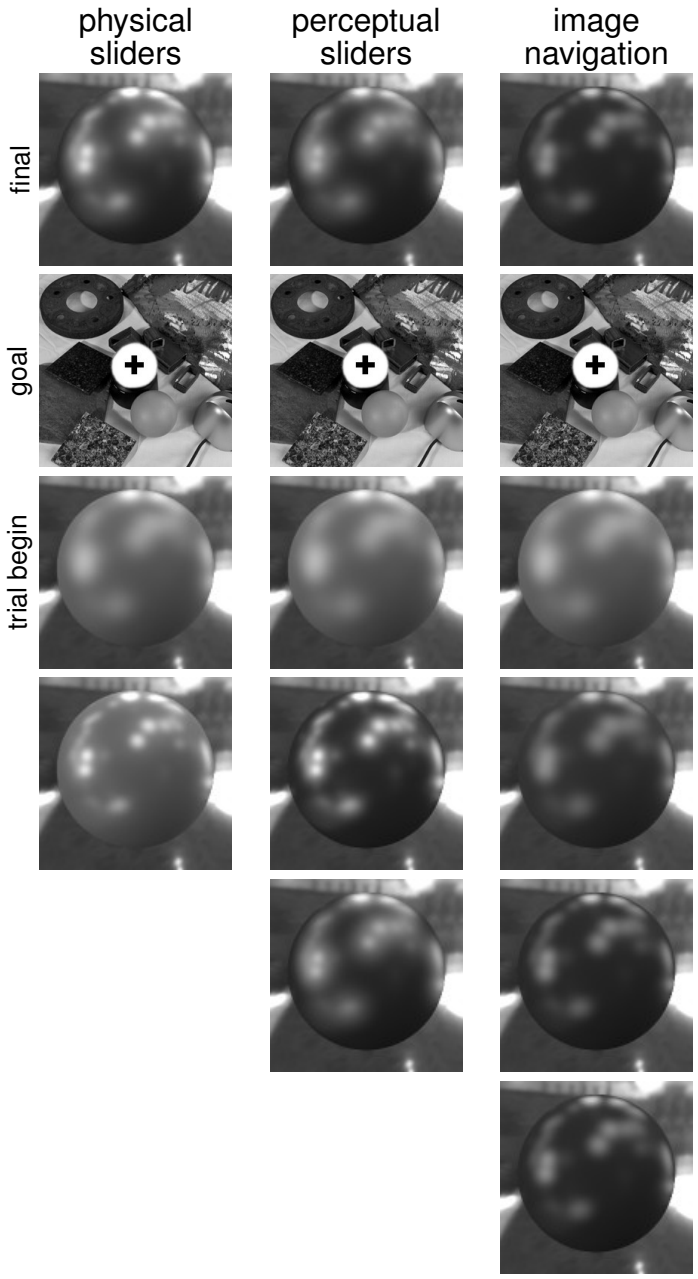
Trial 7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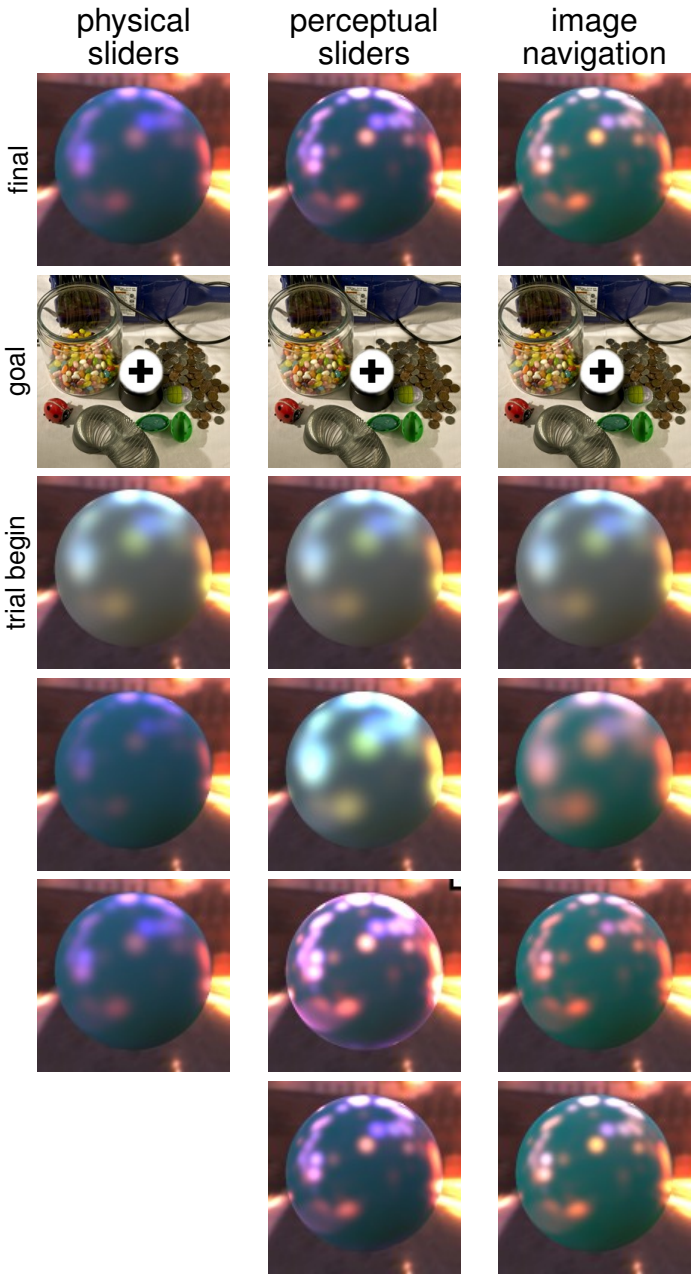
Trial 8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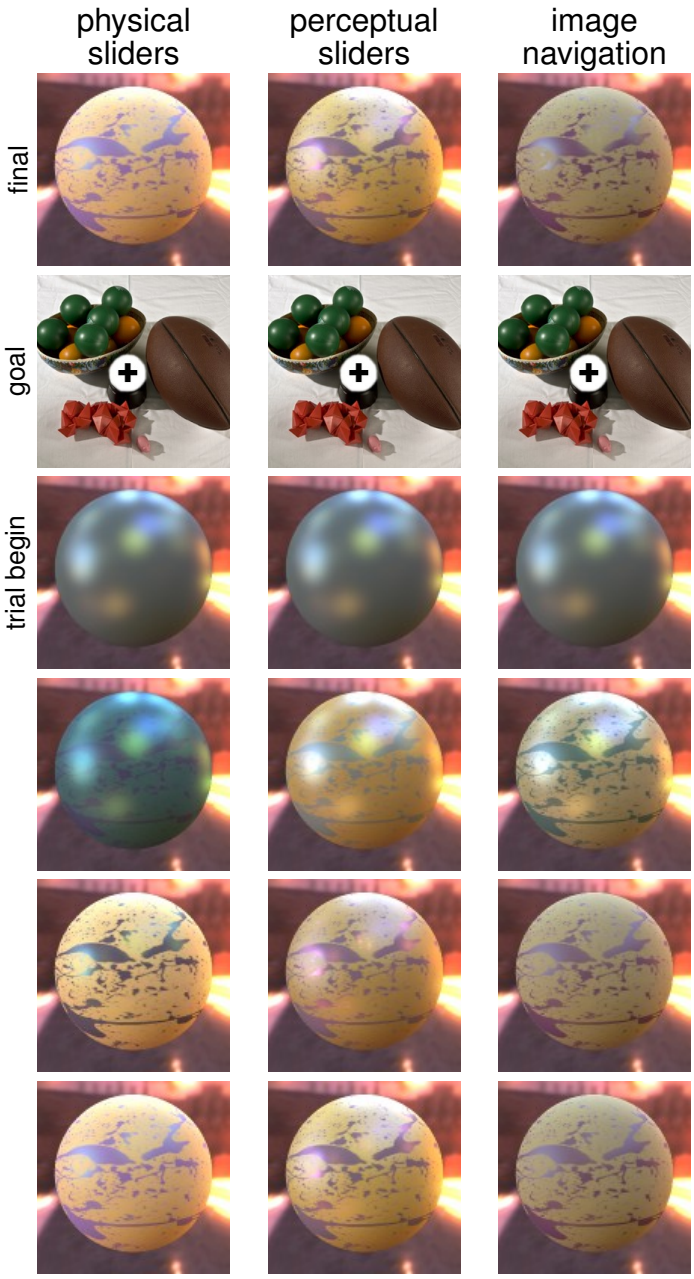
physical sliders
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image navigation
final
goal
trial begin

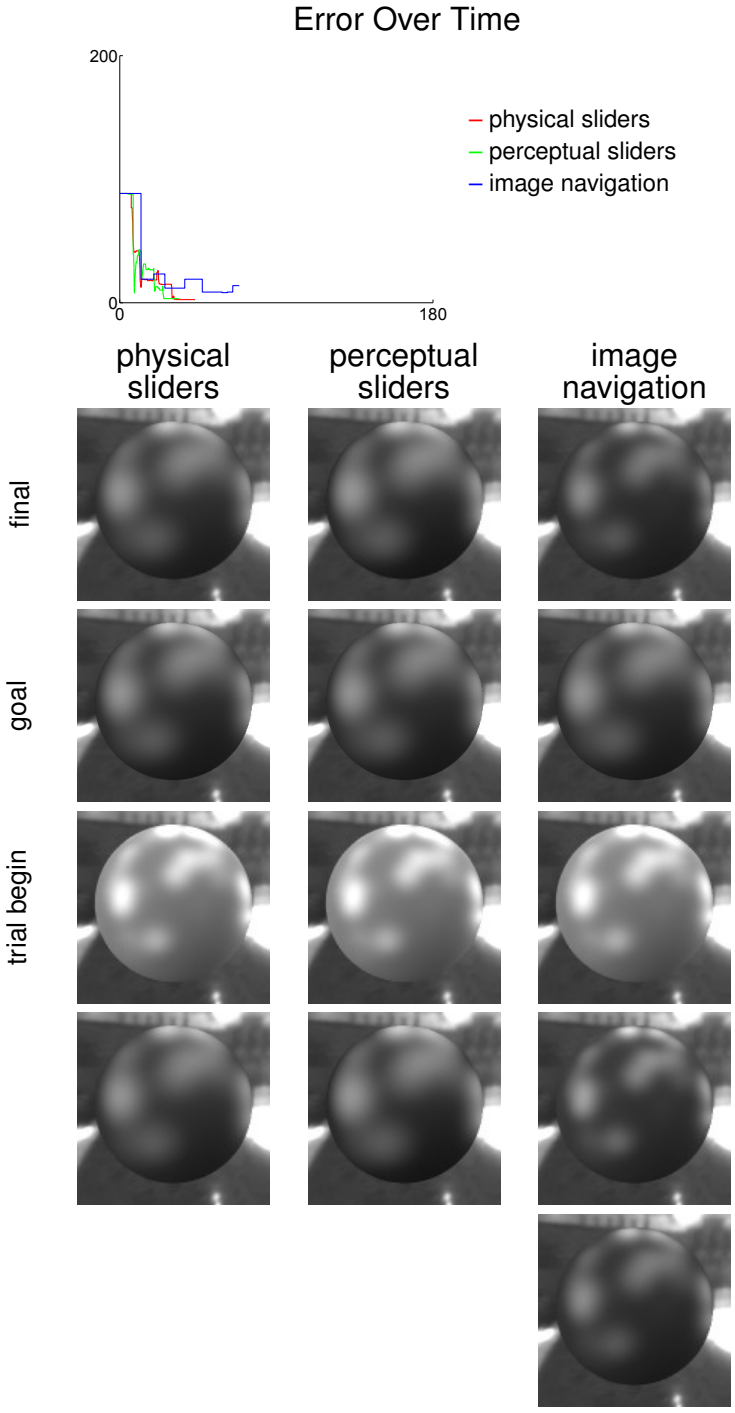
physical sliders

perceptual sliders

image navigation

Subject 2

Trial 1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perceptual sliders
image navigation
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perceptual sliders
image navigation
final
goal
trial begin

Trial 2

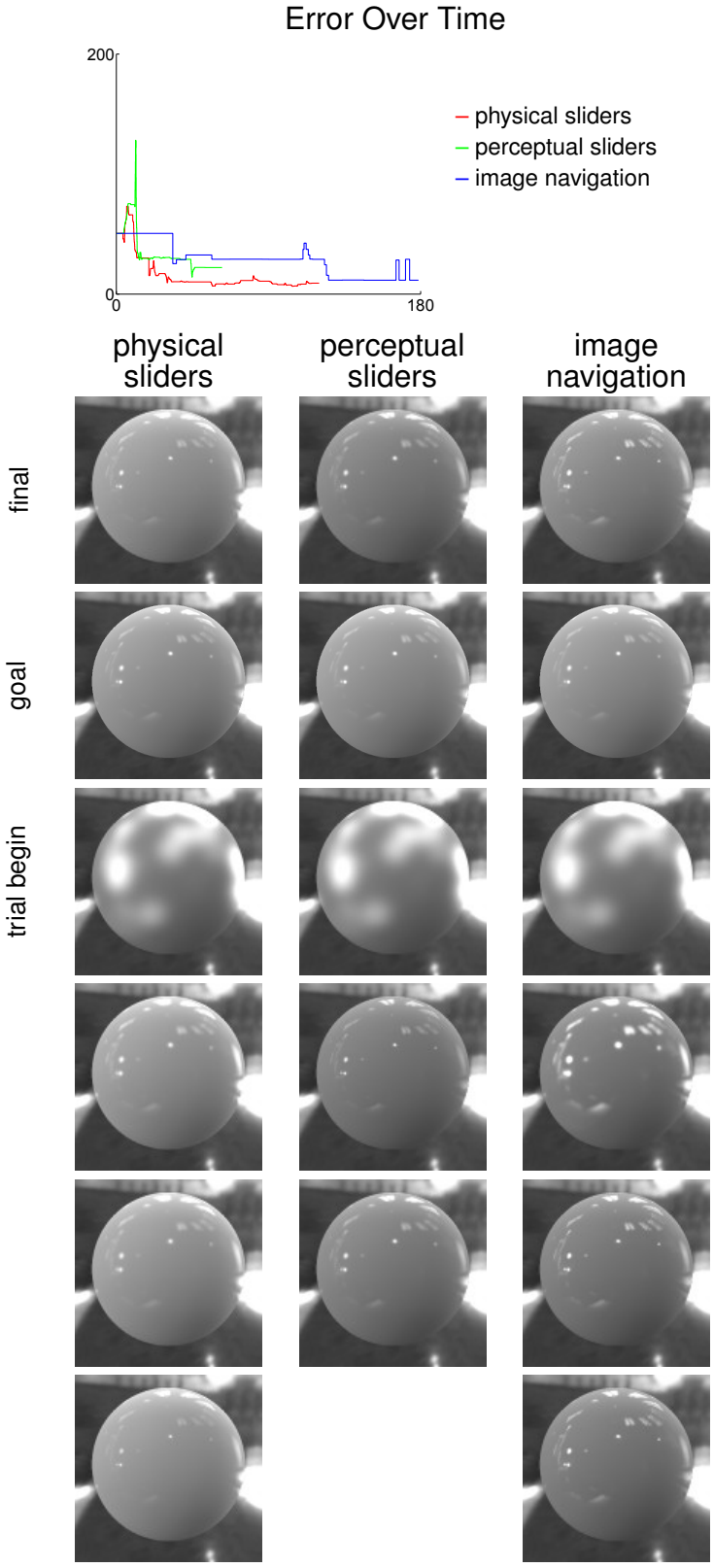
Error Over Time
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image navigation
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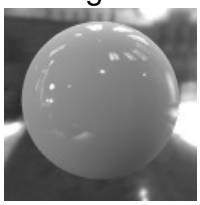
final
goal
trial begin

physical sliders

perceptual sliders

image navigation



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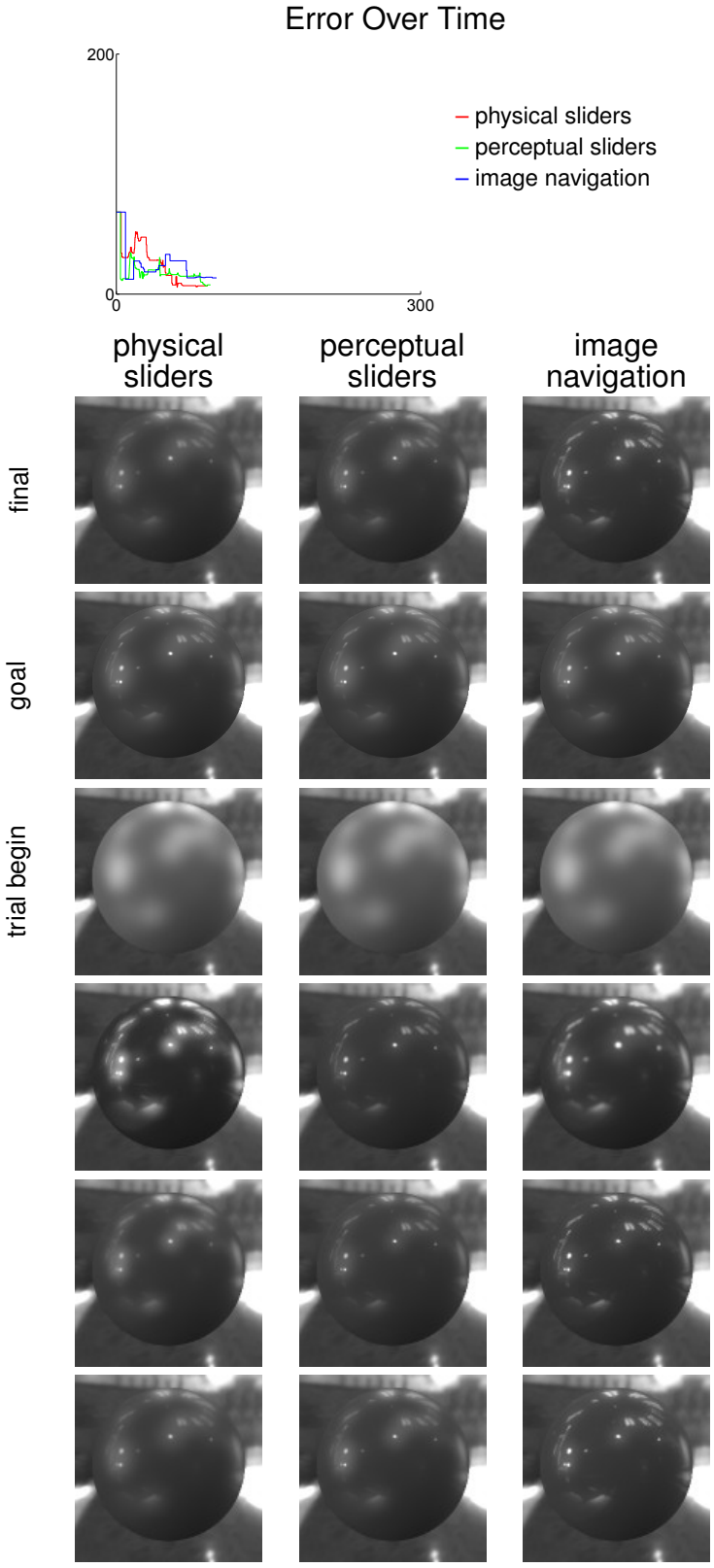
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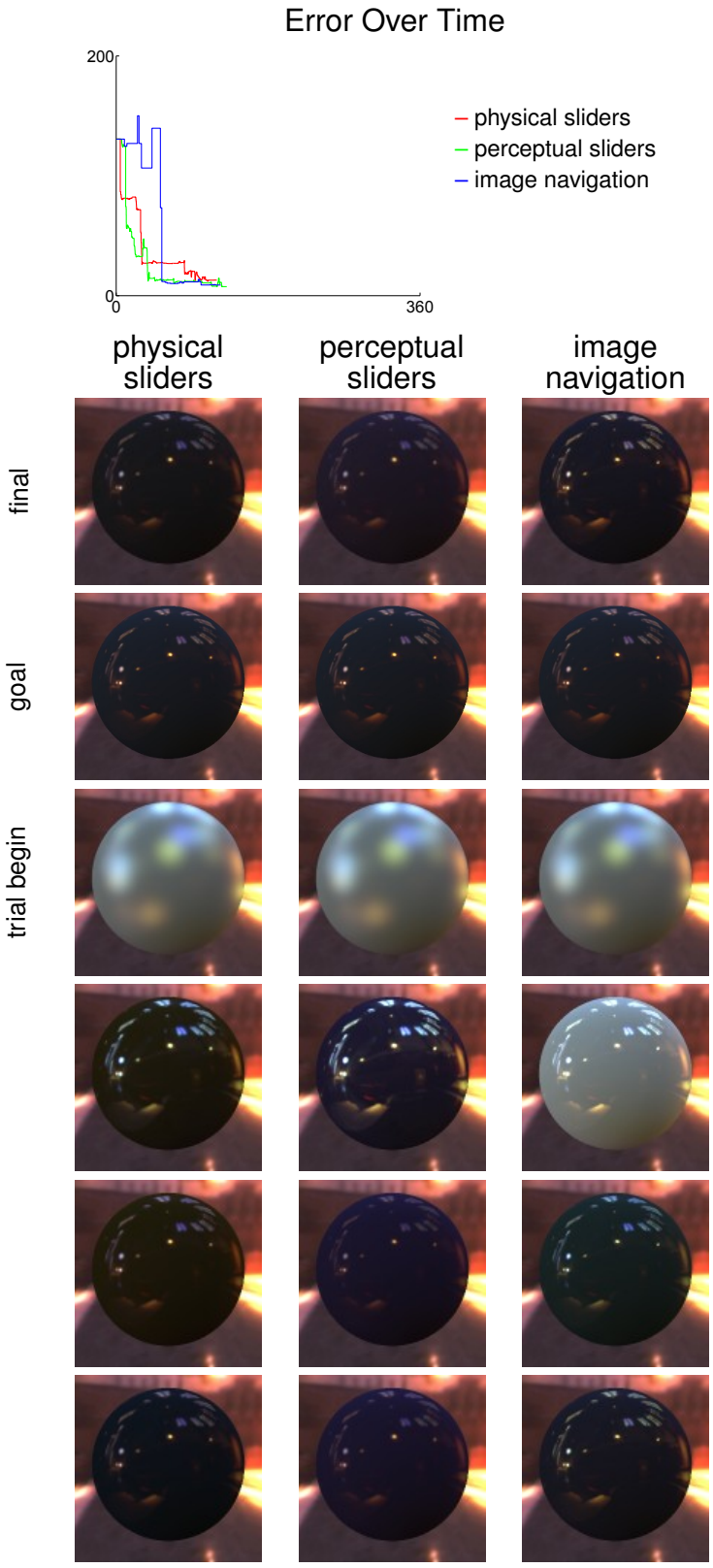
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image navigation
final
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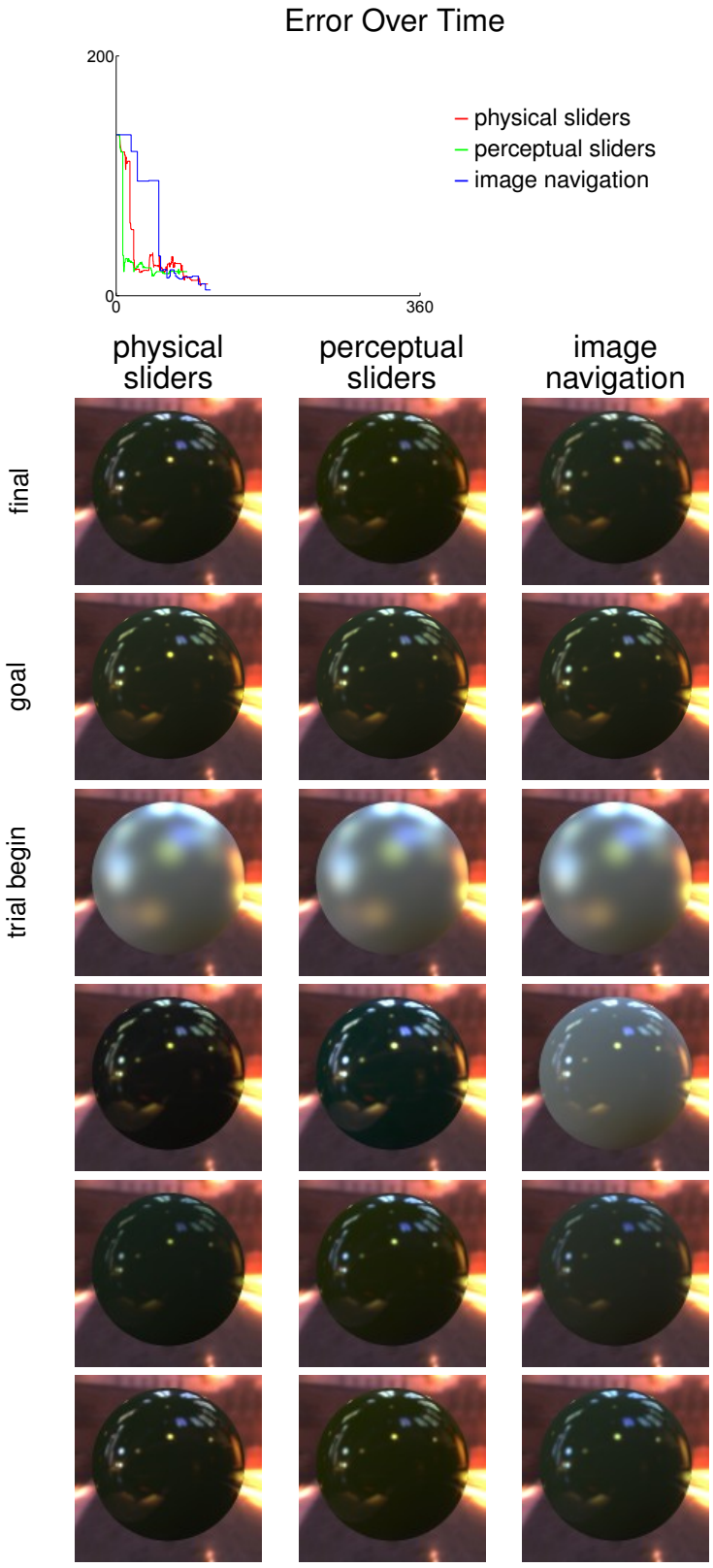
trial begin

physical sliders

perceptual sliders

image navigation

Trial 5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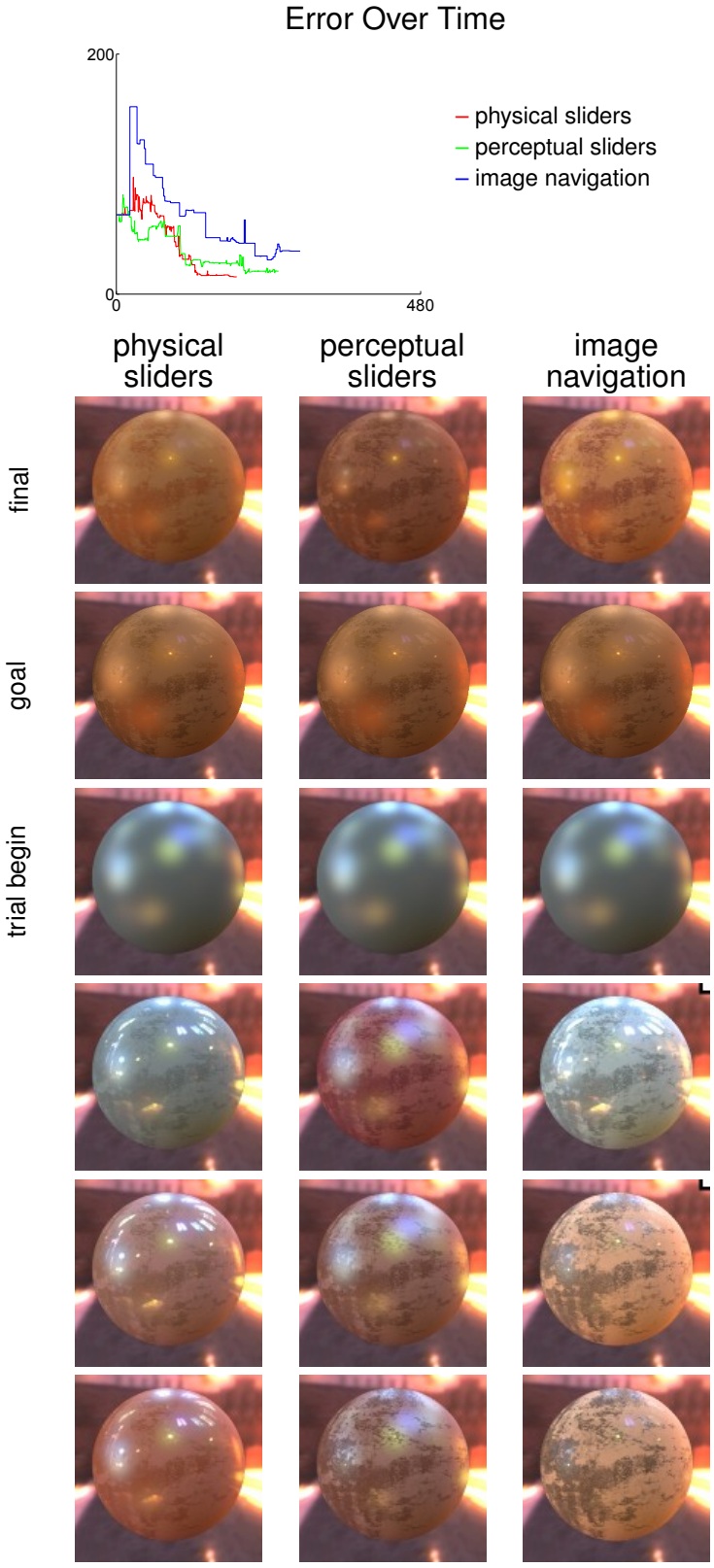
Trial 6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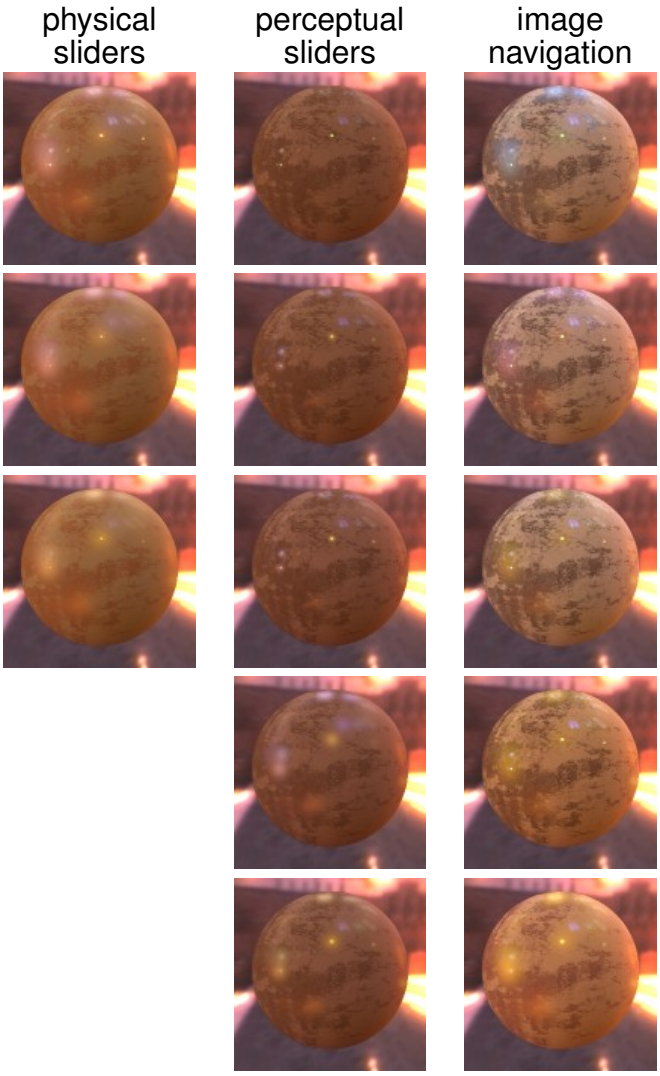
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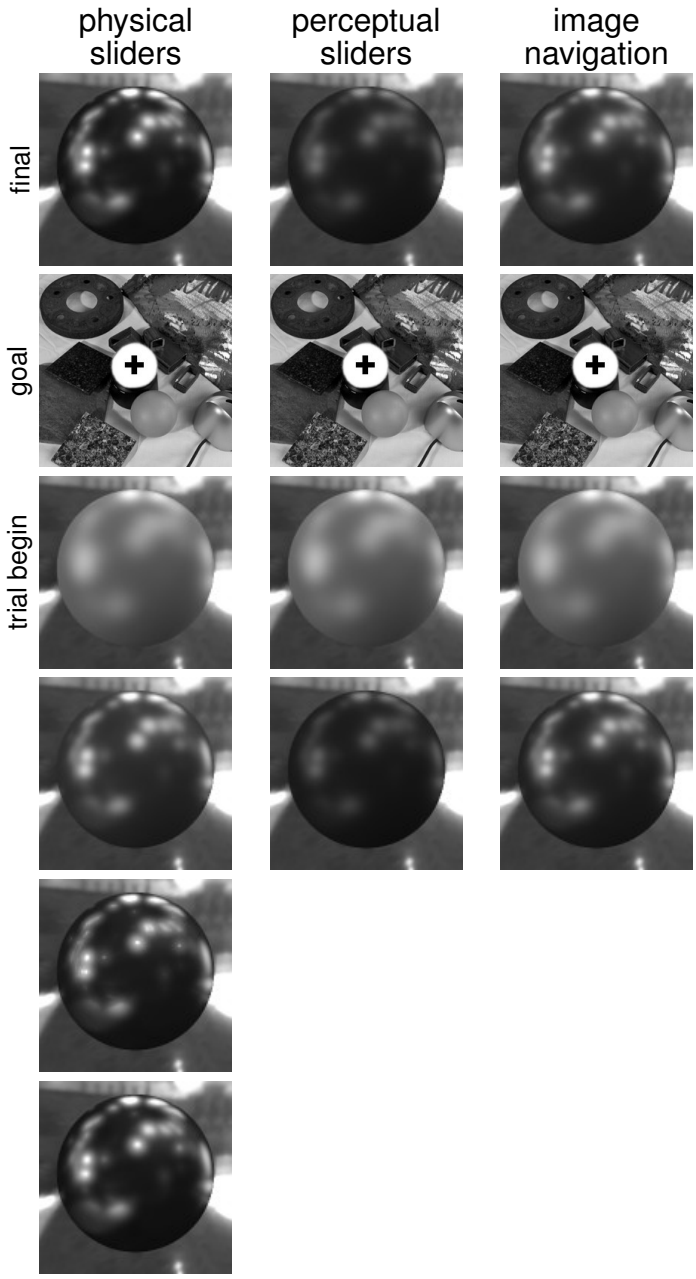
perceptual sliders
image navigation

Trial 7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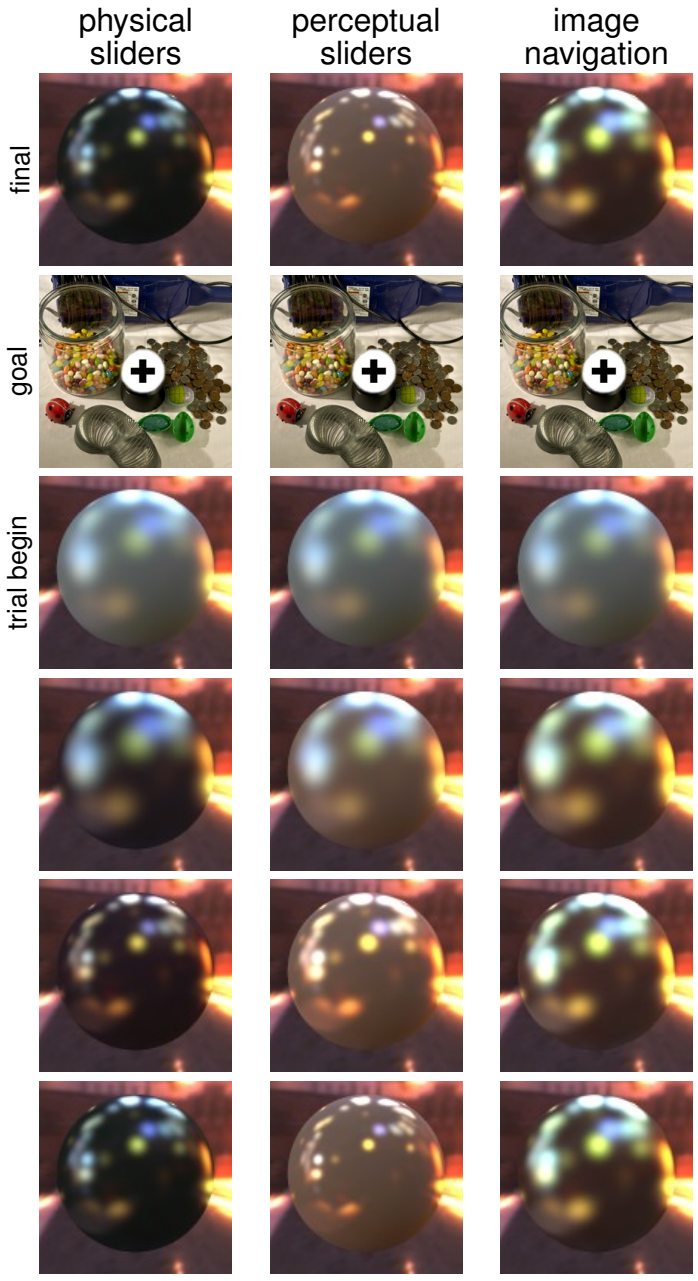
Trial 8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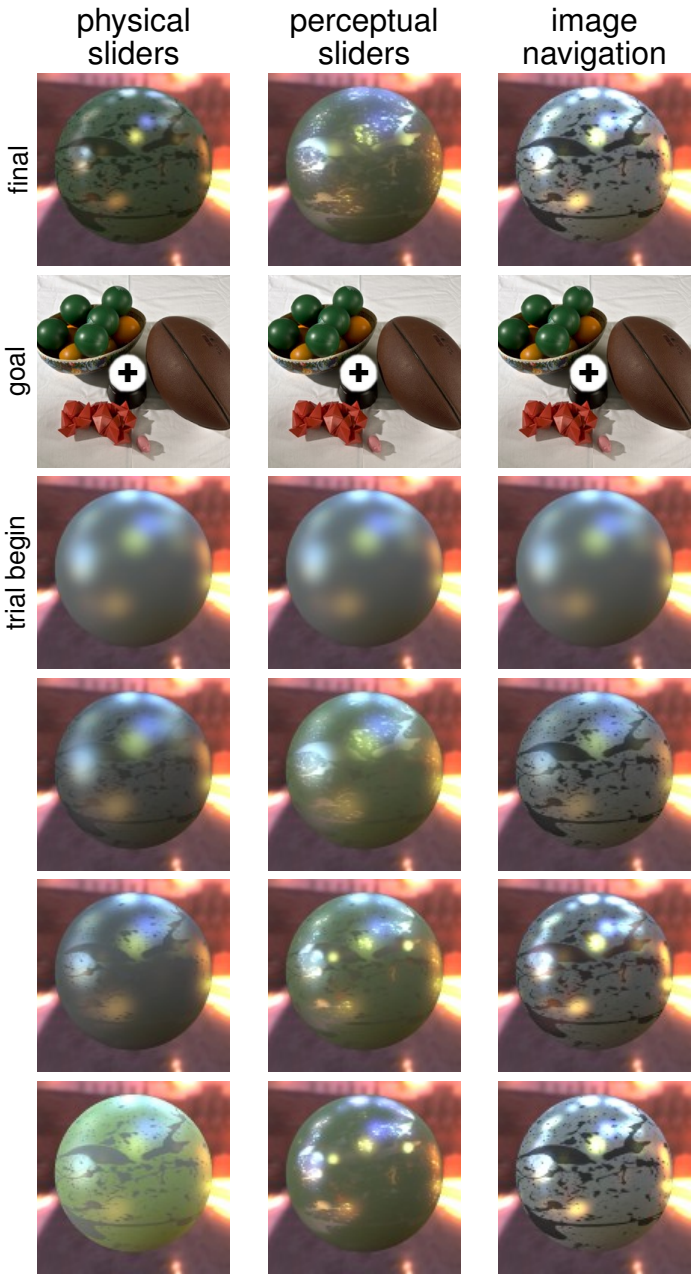
Trial 9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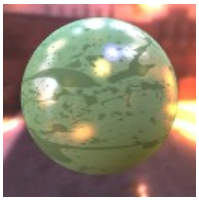
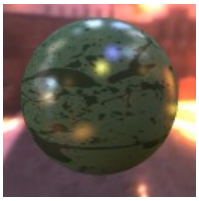
physical sliders

perceptual sliders

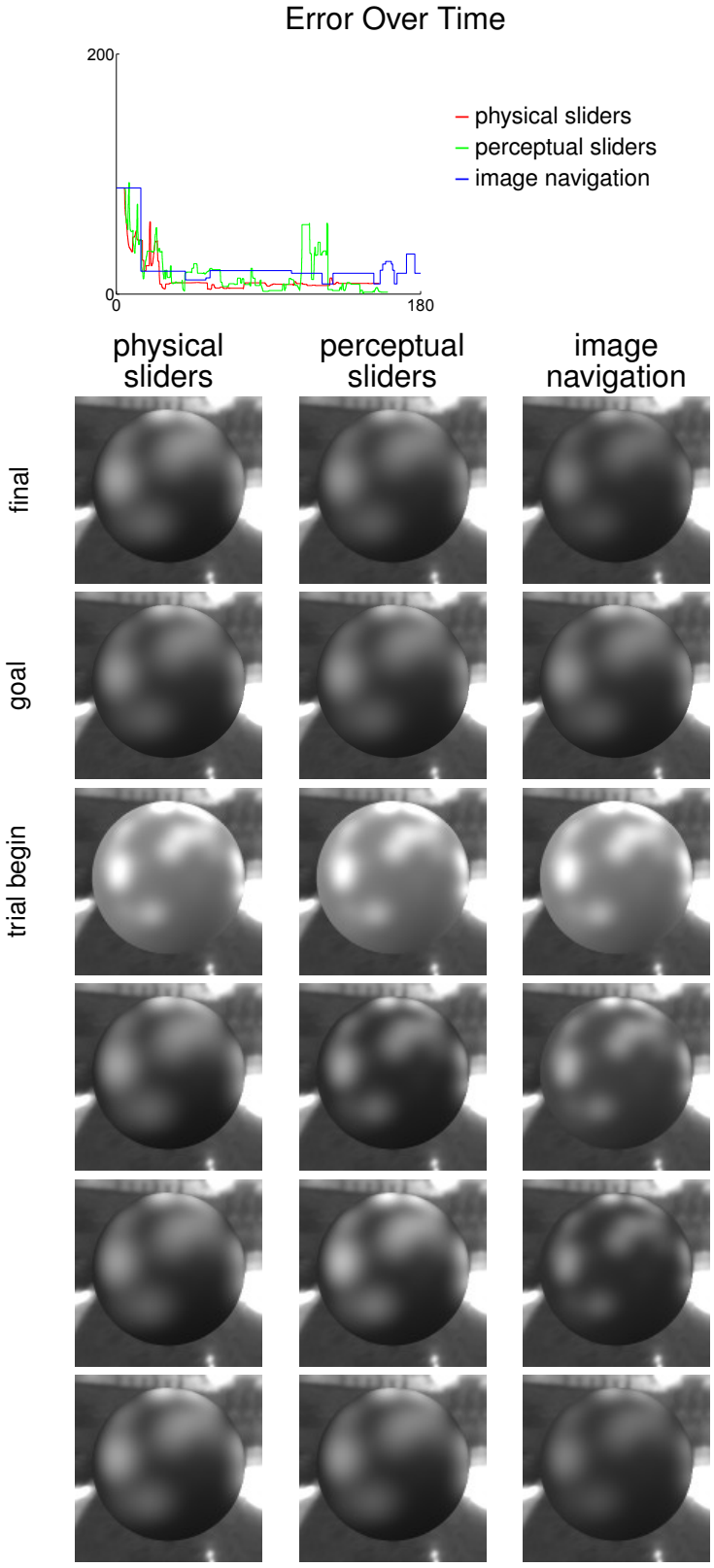
image navigation





Subject 3

Trial 1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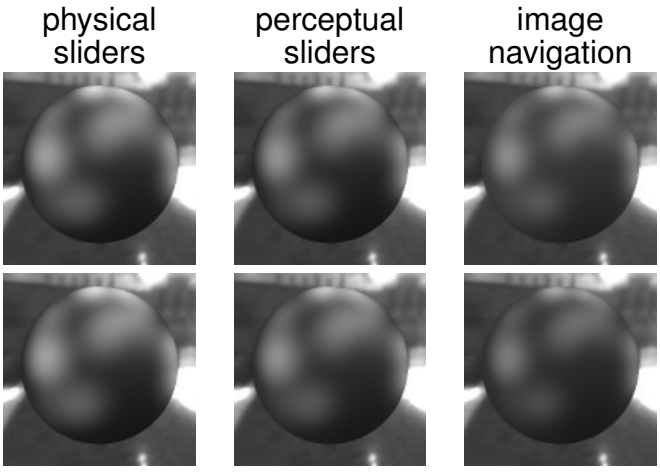
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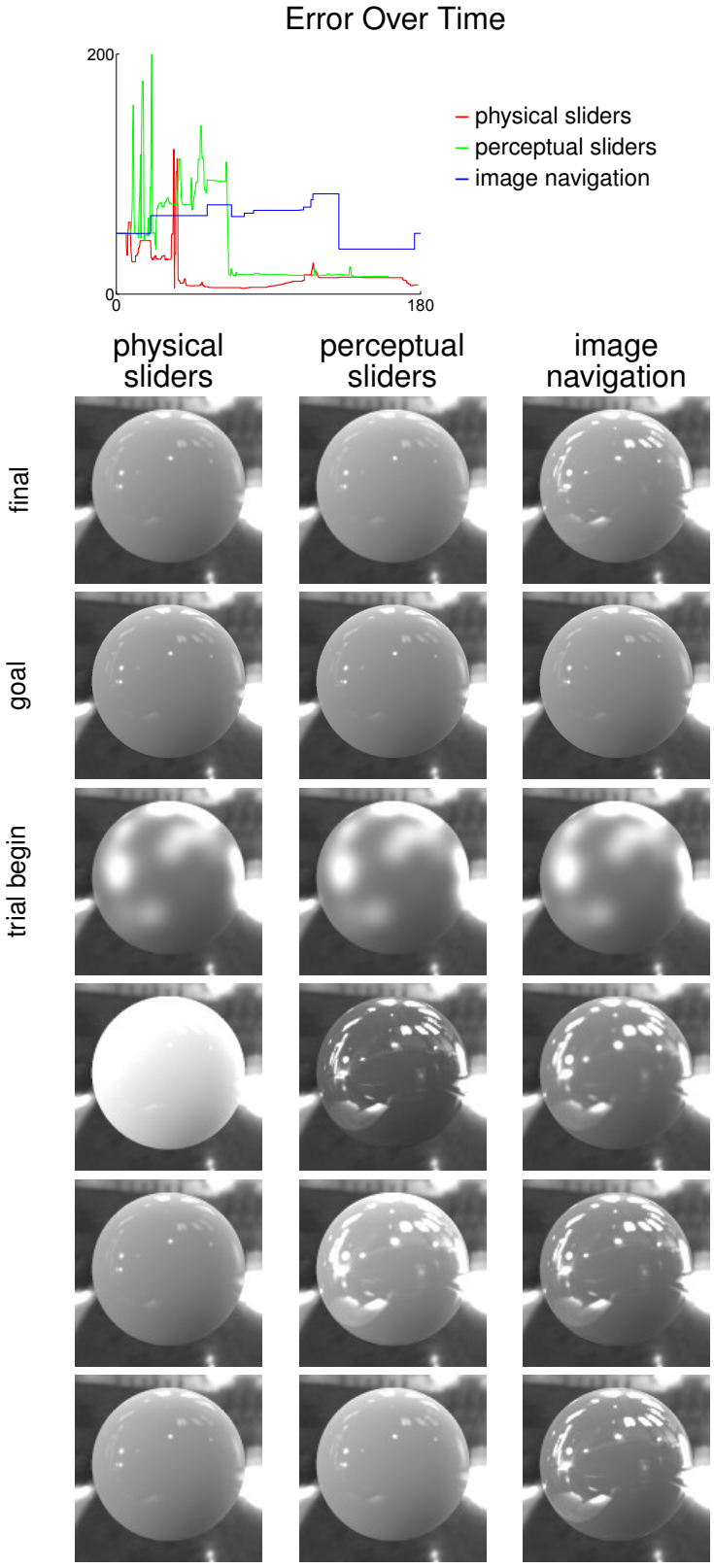
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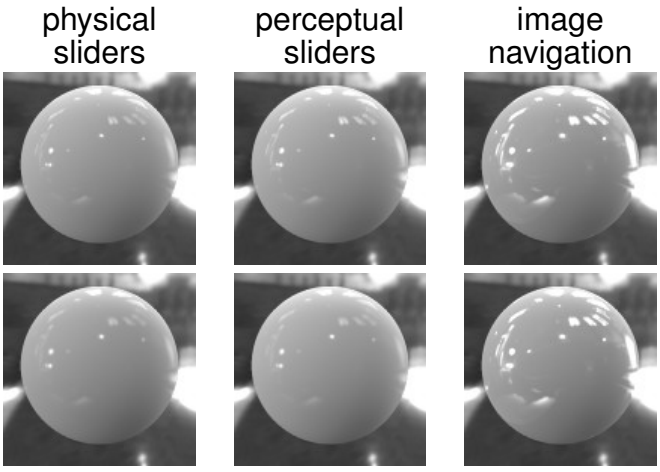
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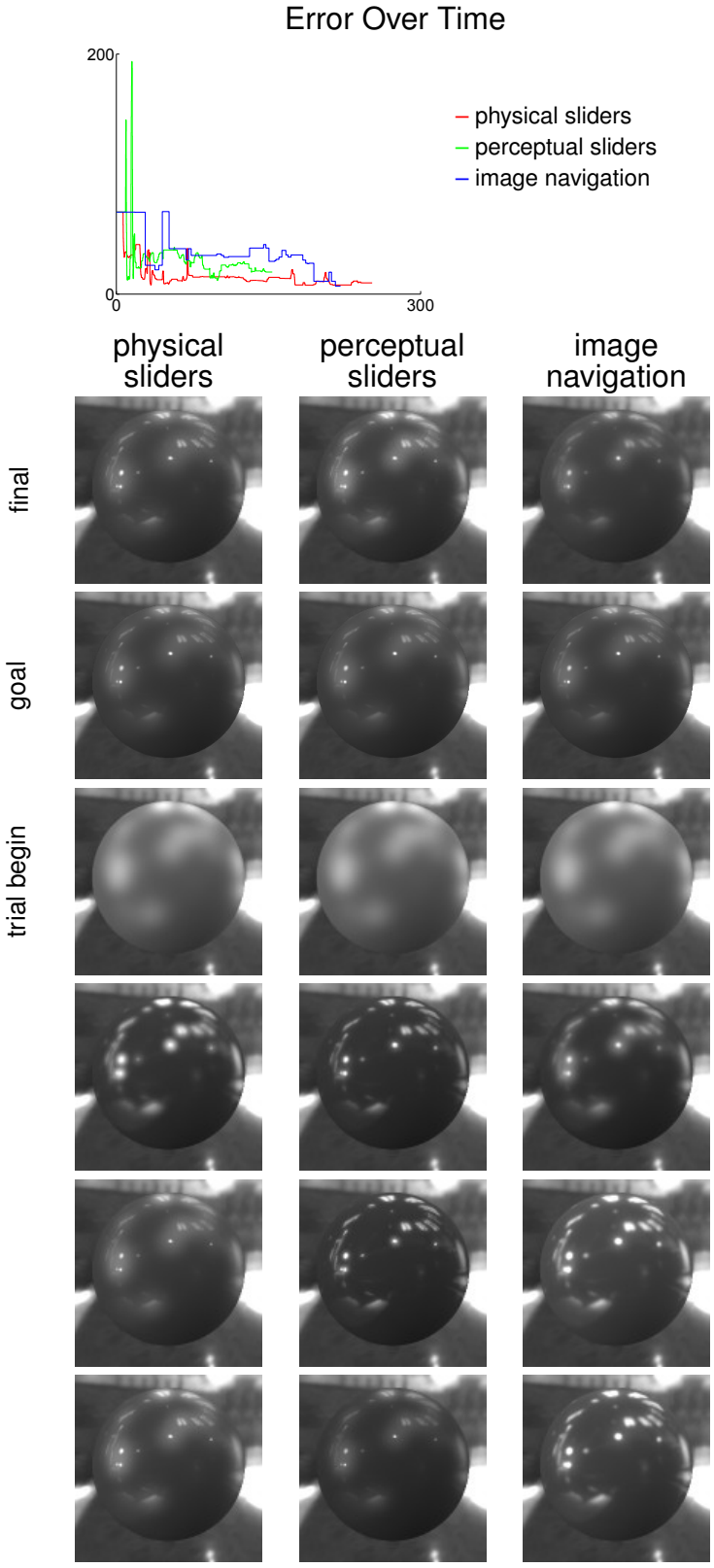
Trial 3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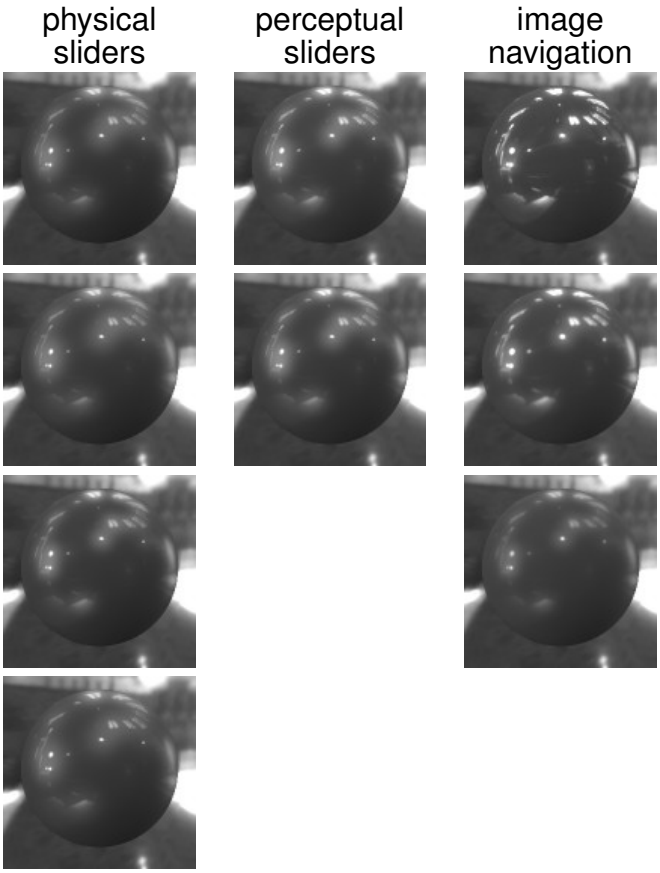
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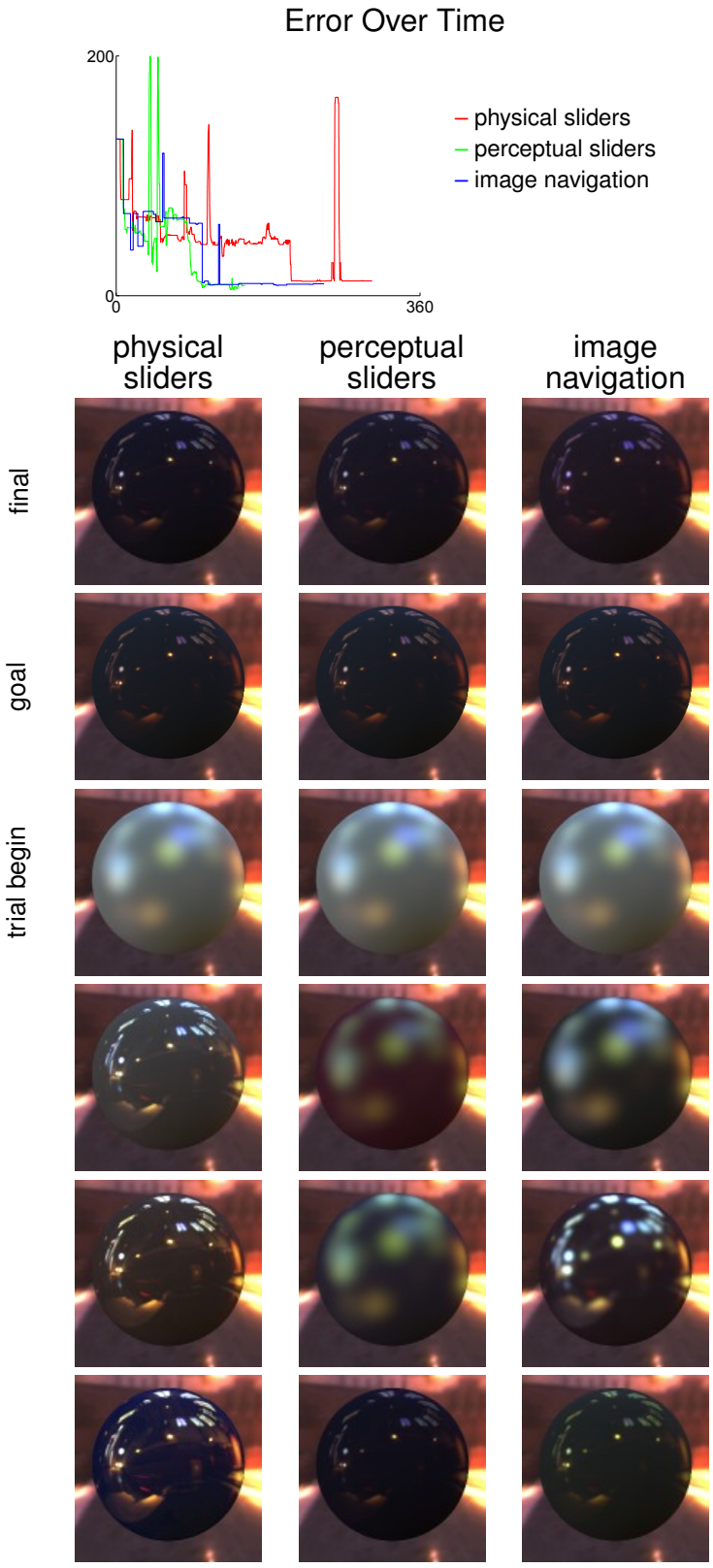
Trial 4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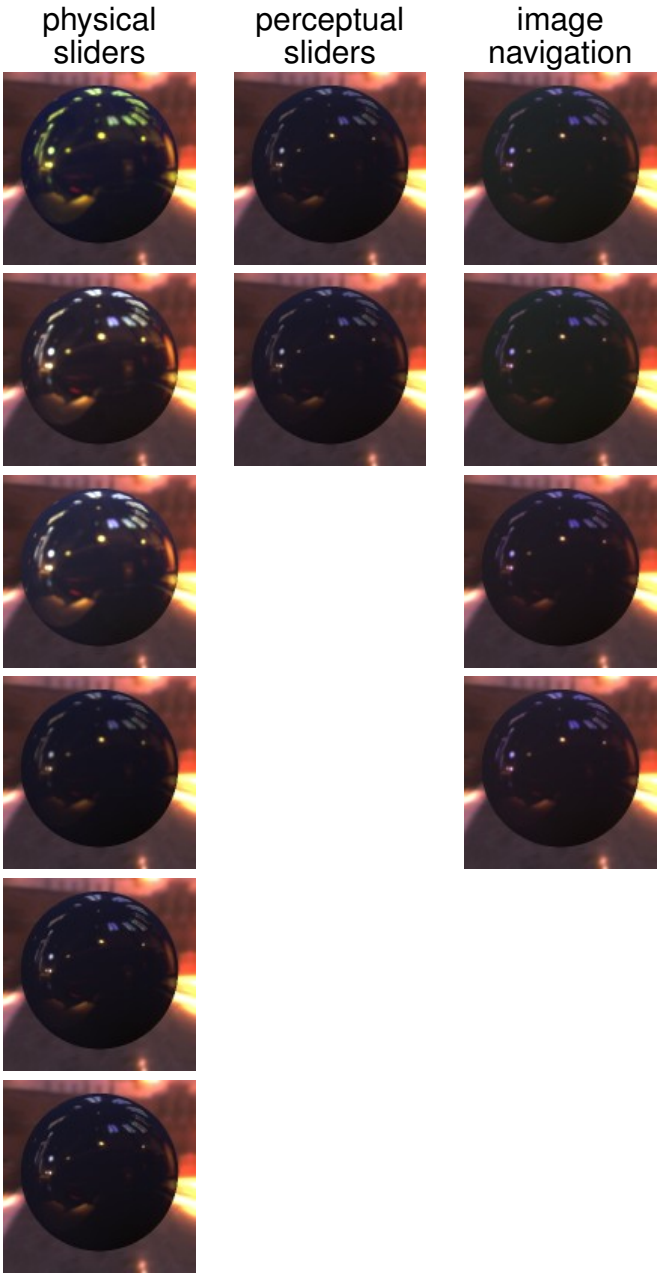
physical sliders
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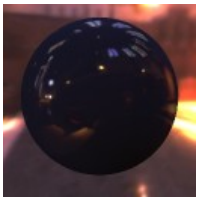
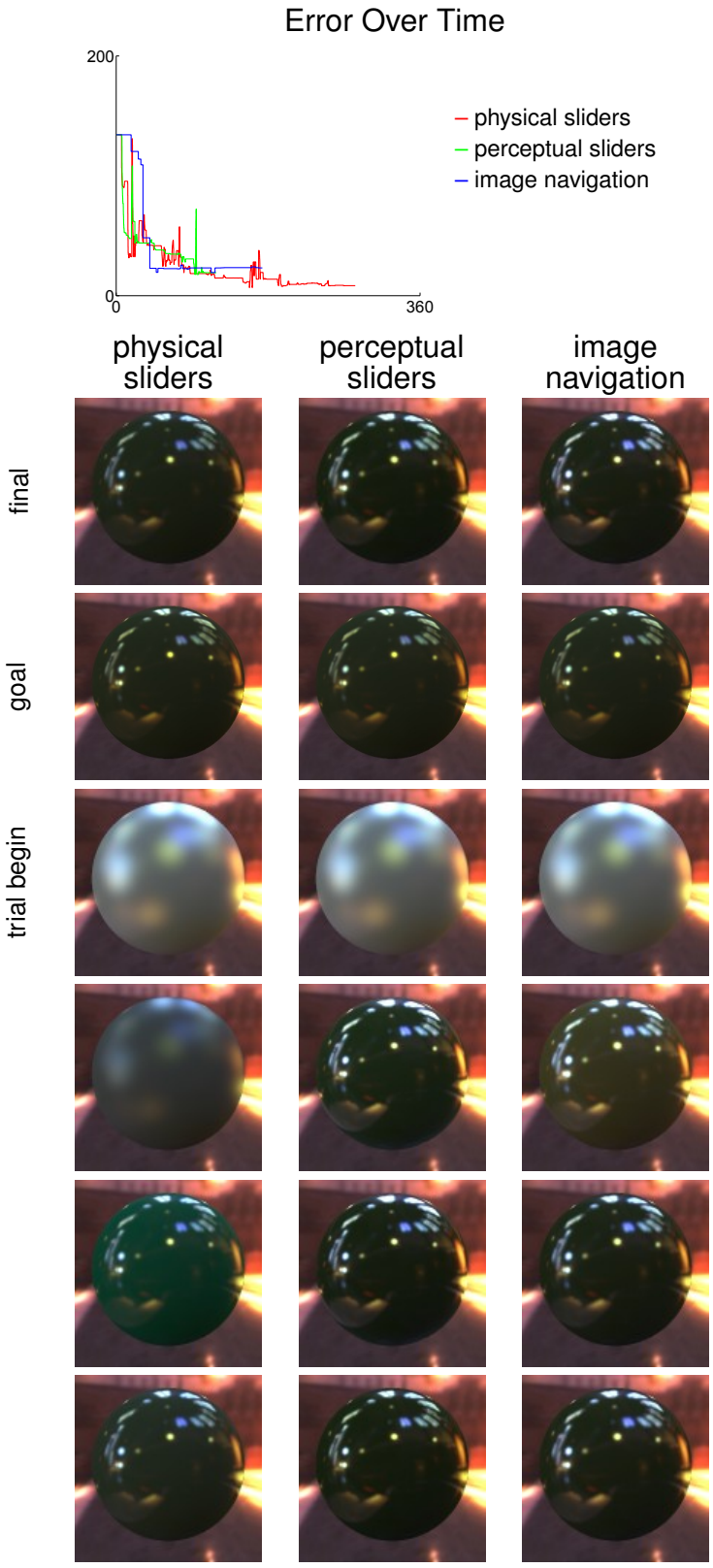
physical sliders

perceptual sliders

image navigation



Trial 5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360
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image navigation
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perceptual sliders
image navigation
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goal
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physical sliders
perceptual sliders
image navigation

Trial 6

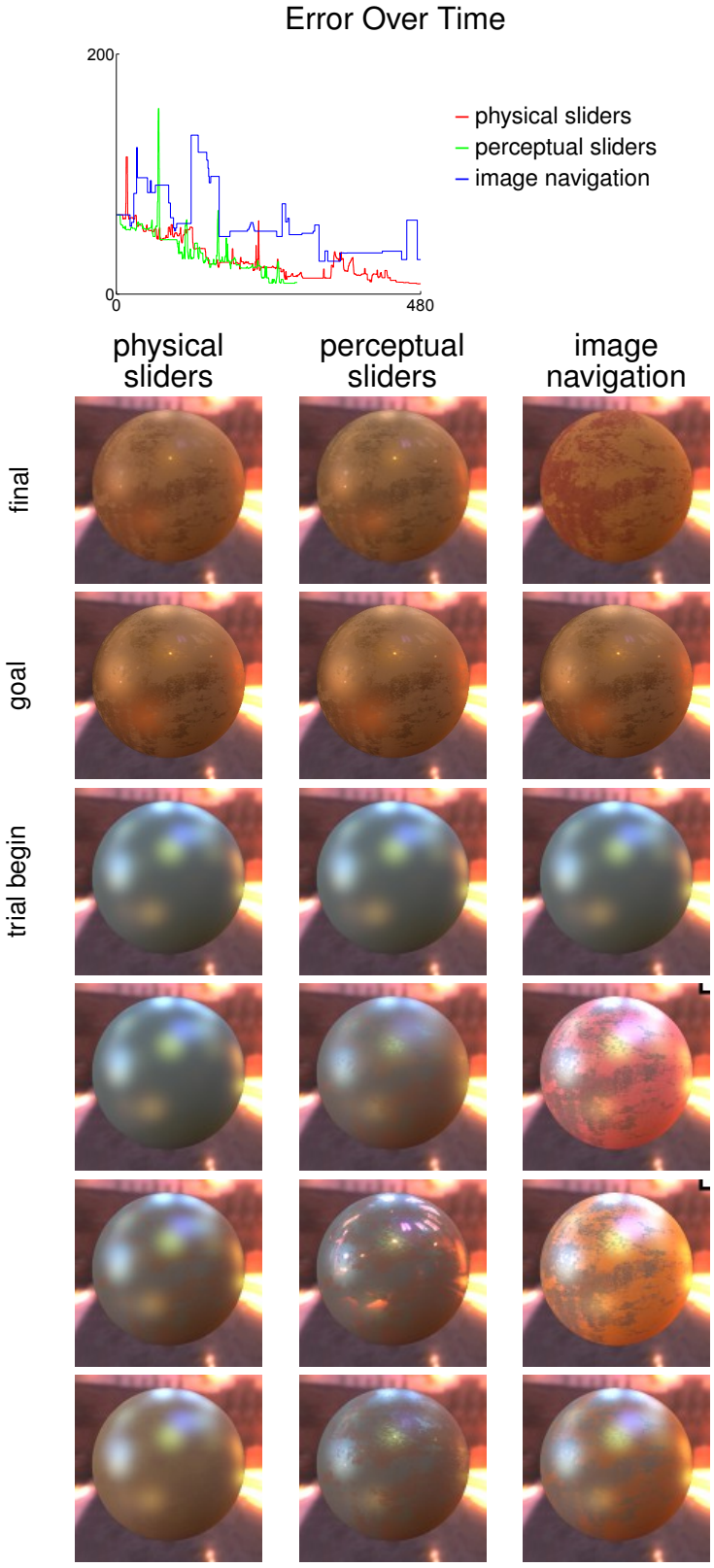
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image navigation
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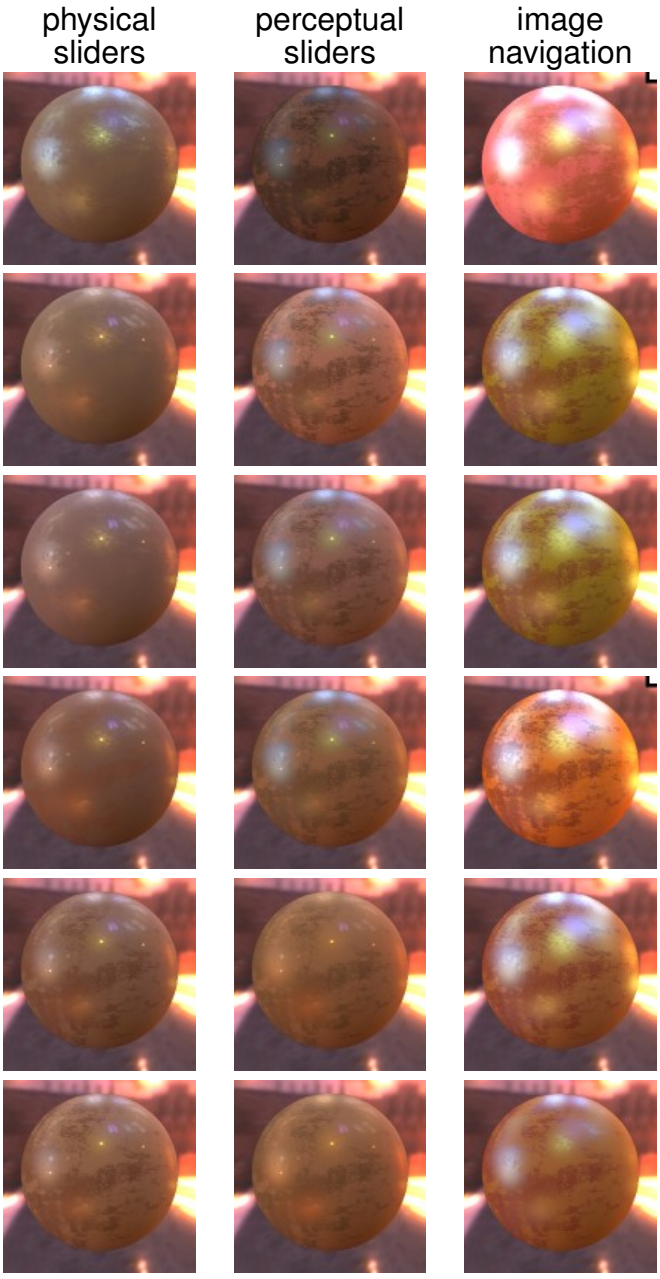
perceptual sliders
image navigation
final
goal
trial begin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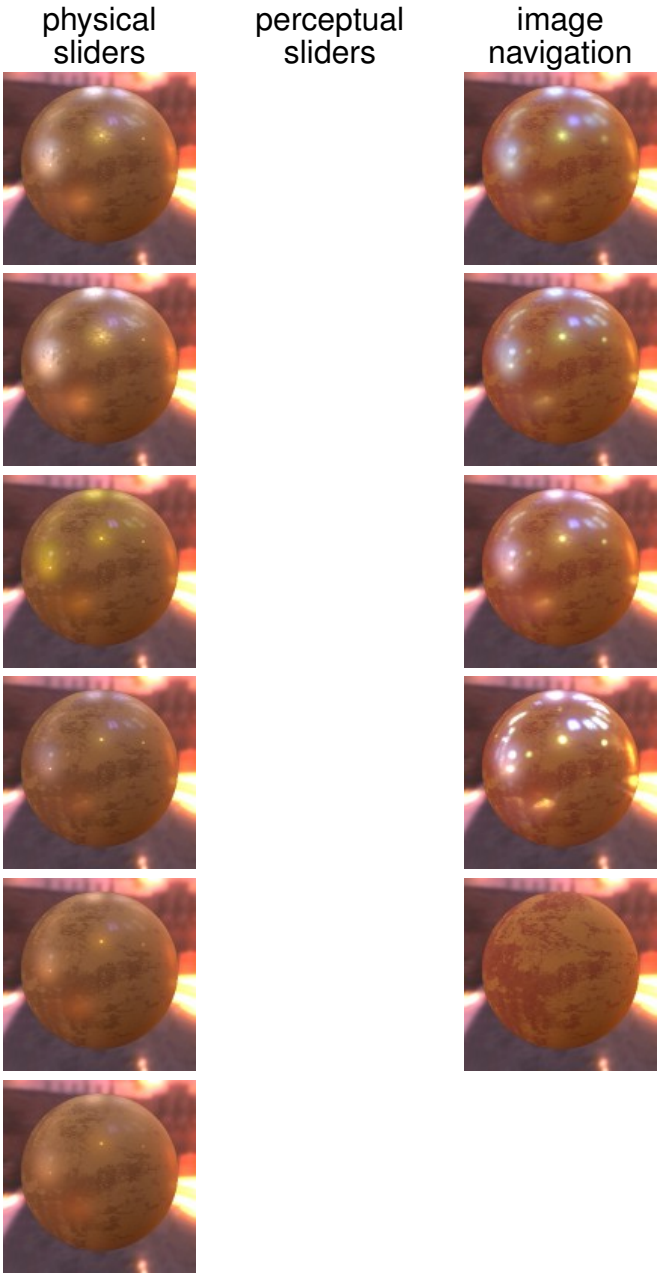
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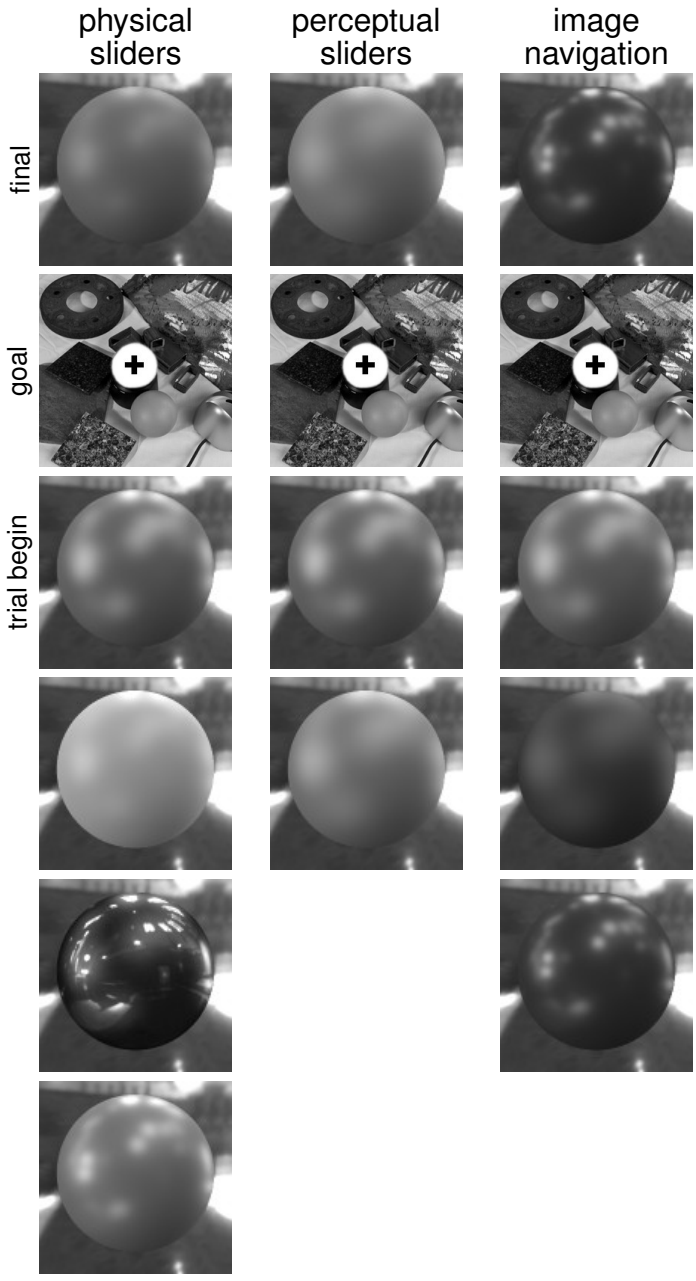
Trial 7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perceptual sliders
image navigation
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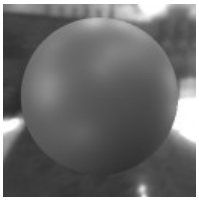
trial begin

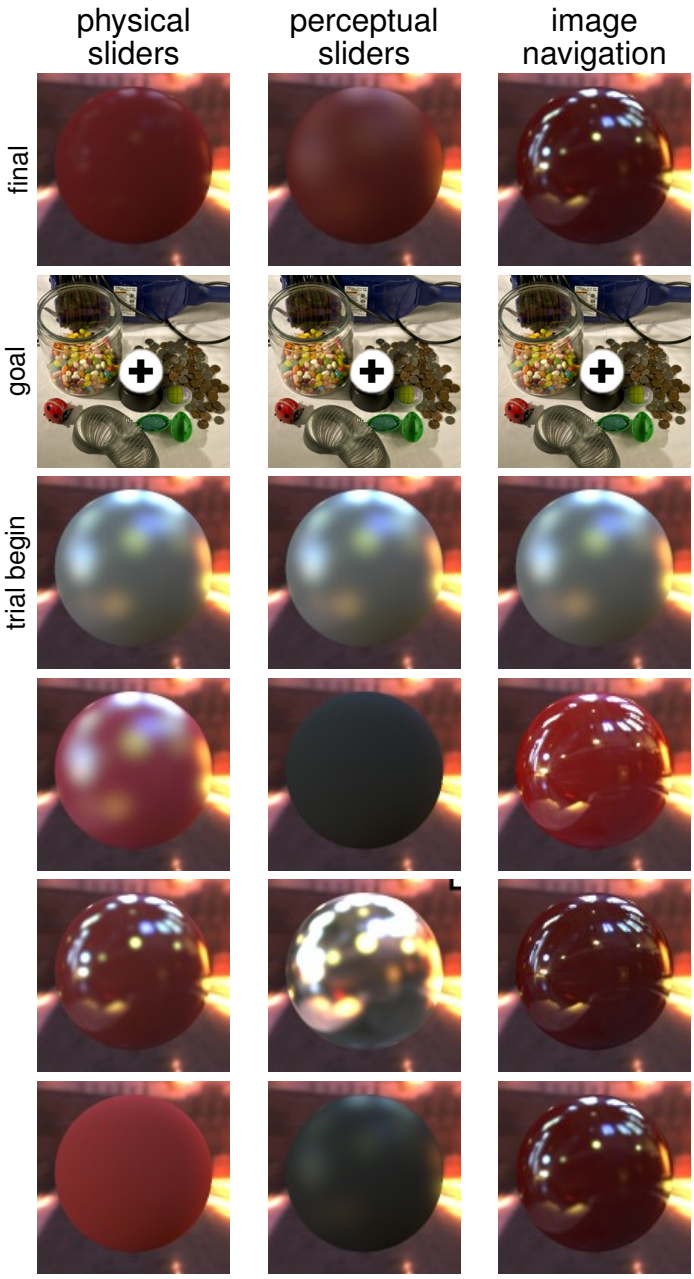
physical sliders

perceptual sliders

image navigation



Trial 8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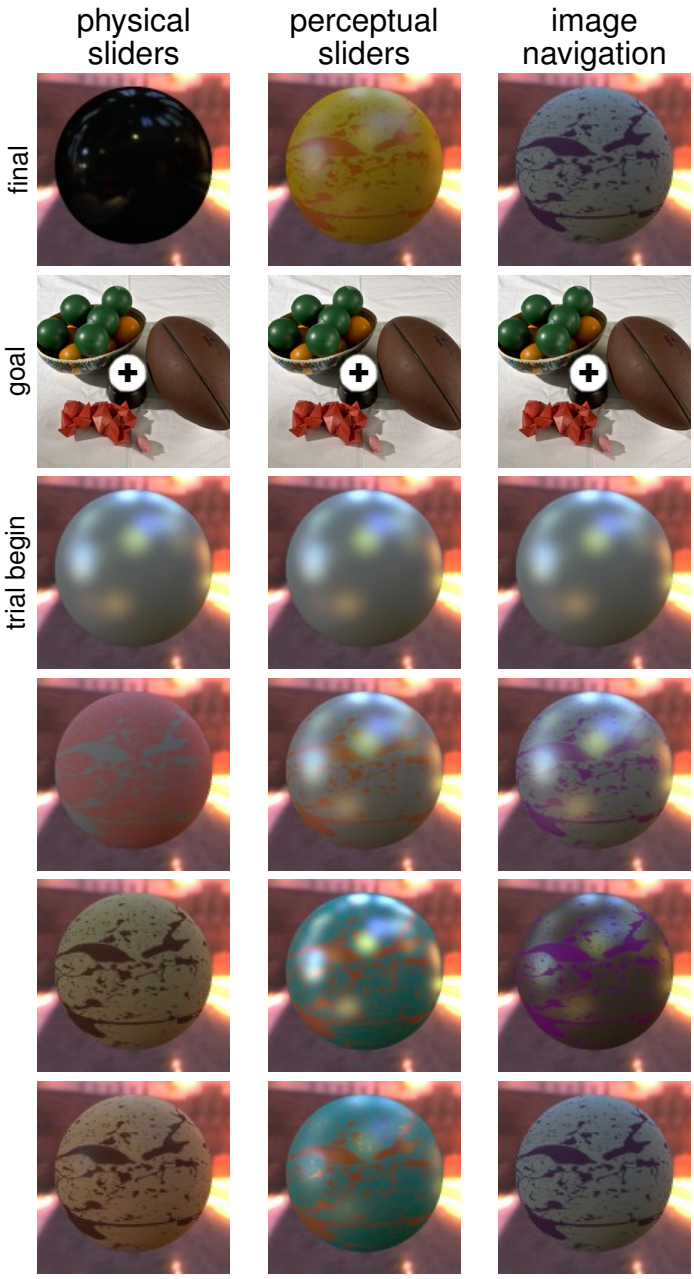
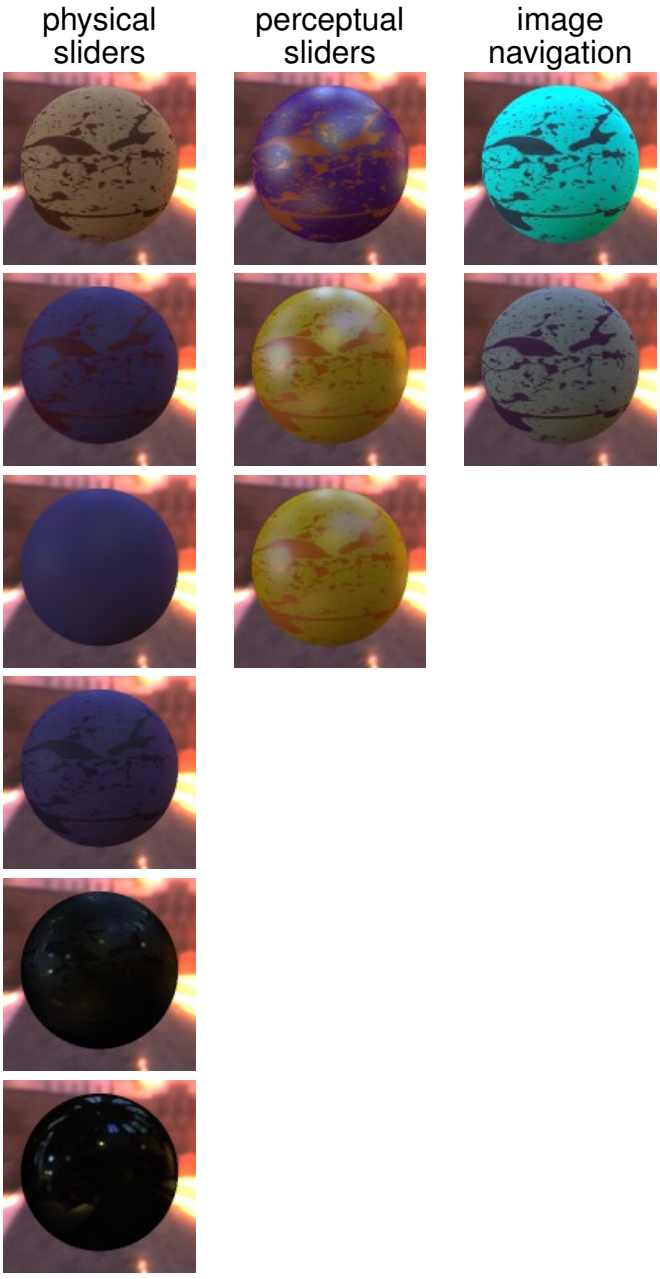
perceptual sliders
image navigation
final
goal
trial begin

physical sliders
perceptual sliders
image navigation

Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

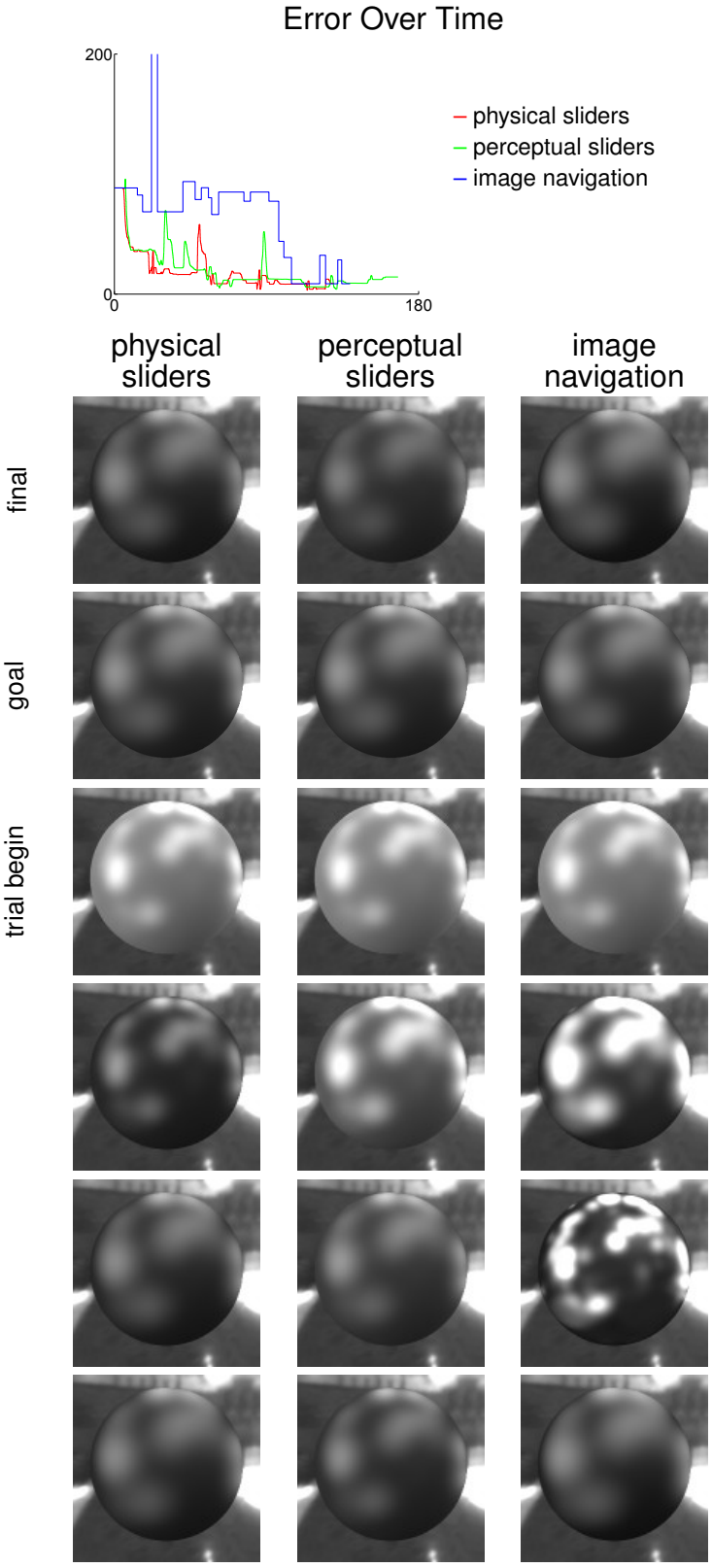
physical sliders

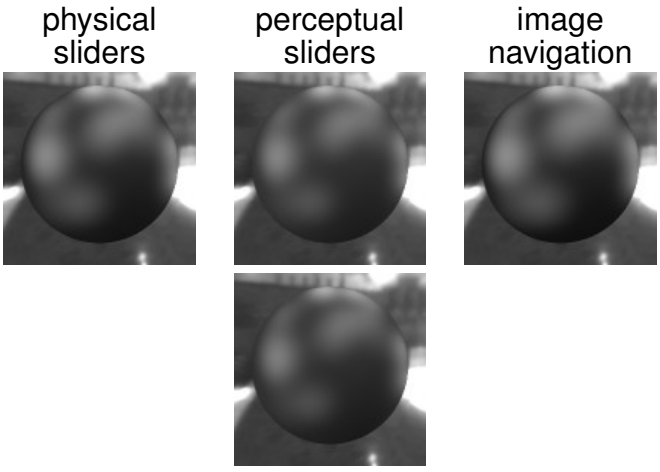
perceptual sliders

image navigation

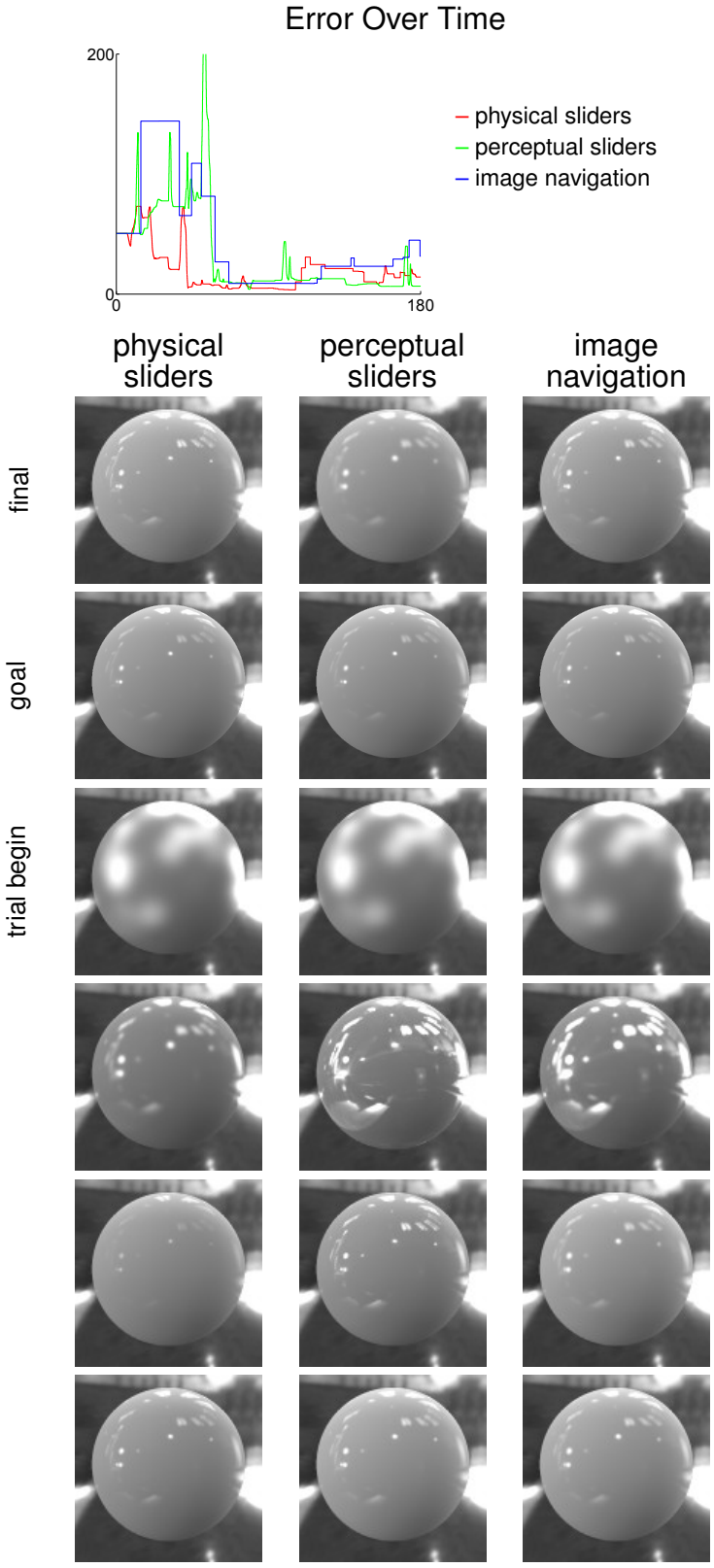
Subject 4

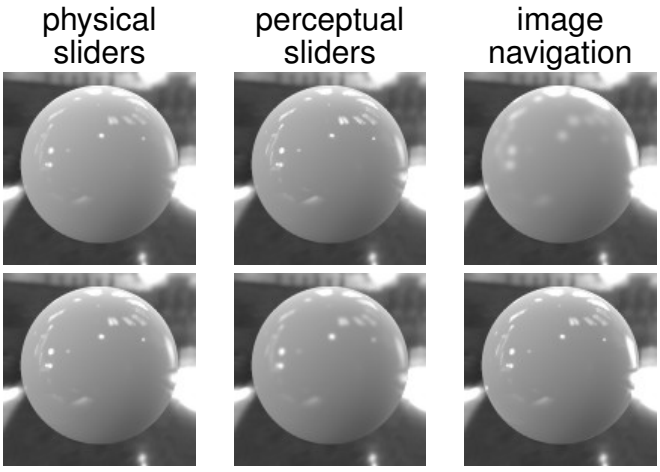
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

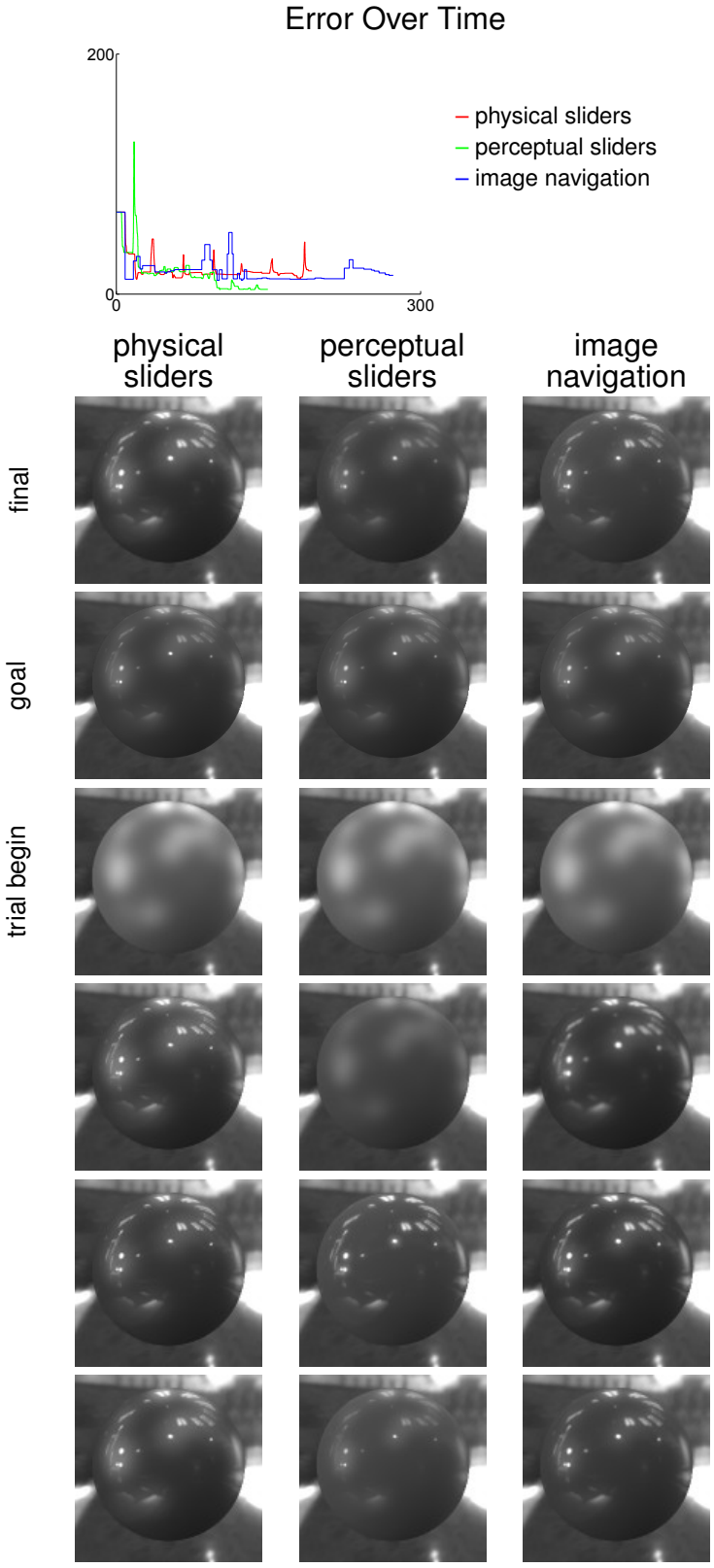

physical sliders
perceptual sliders
image navigation

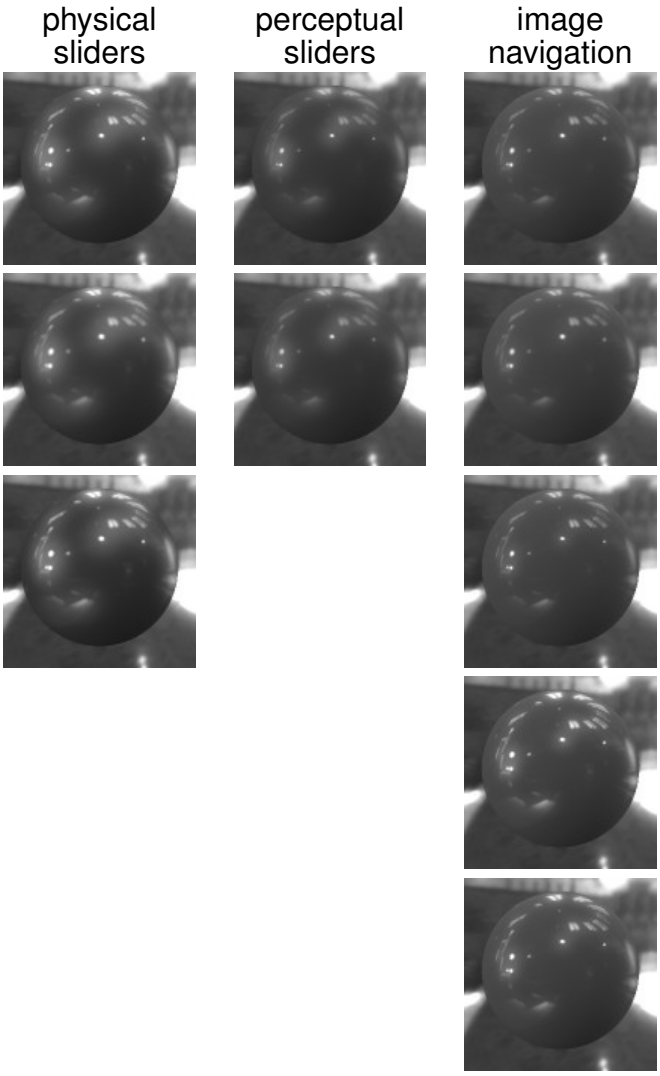
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

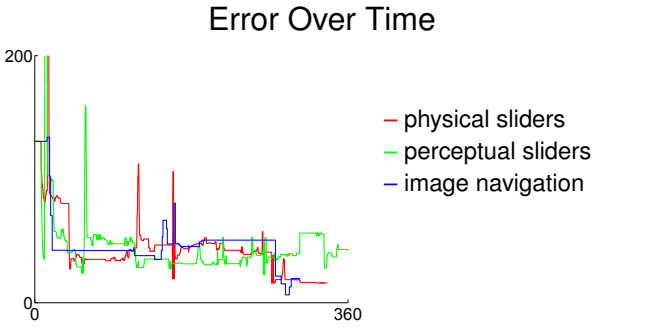

physical sliders
perceptual sliders
image navigation

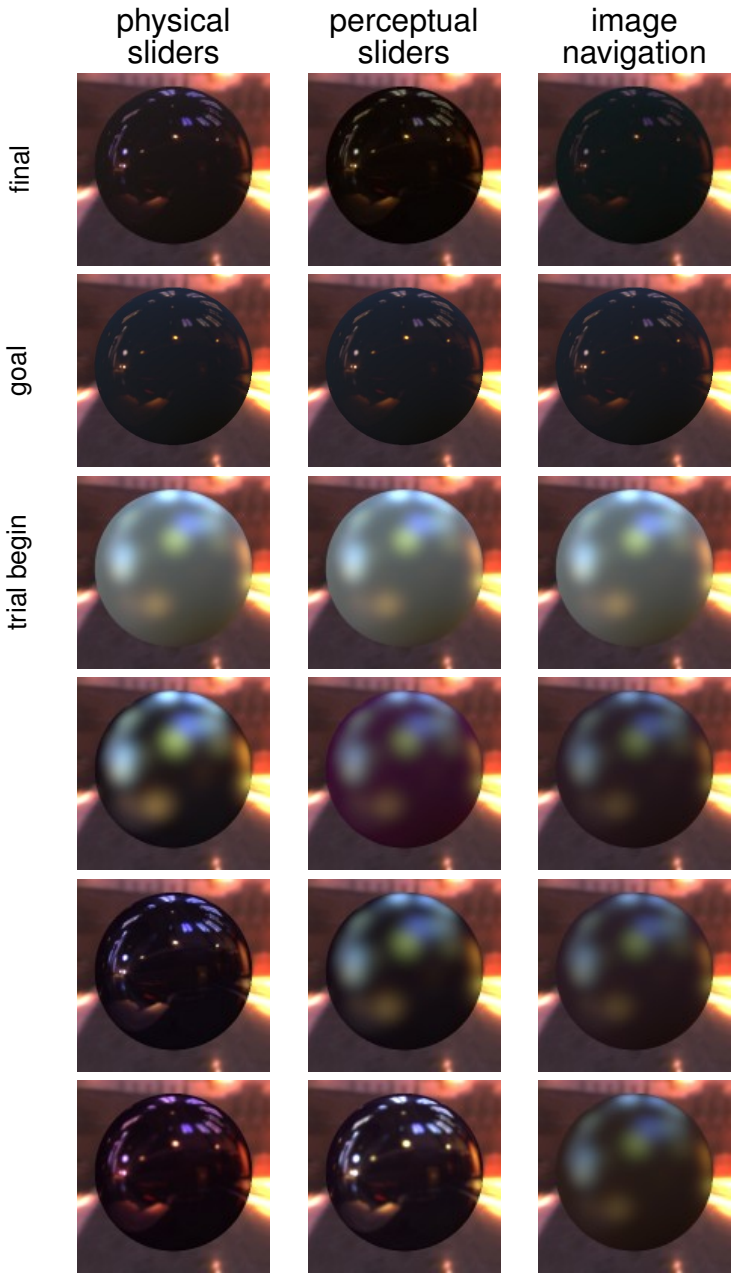
Trial 3

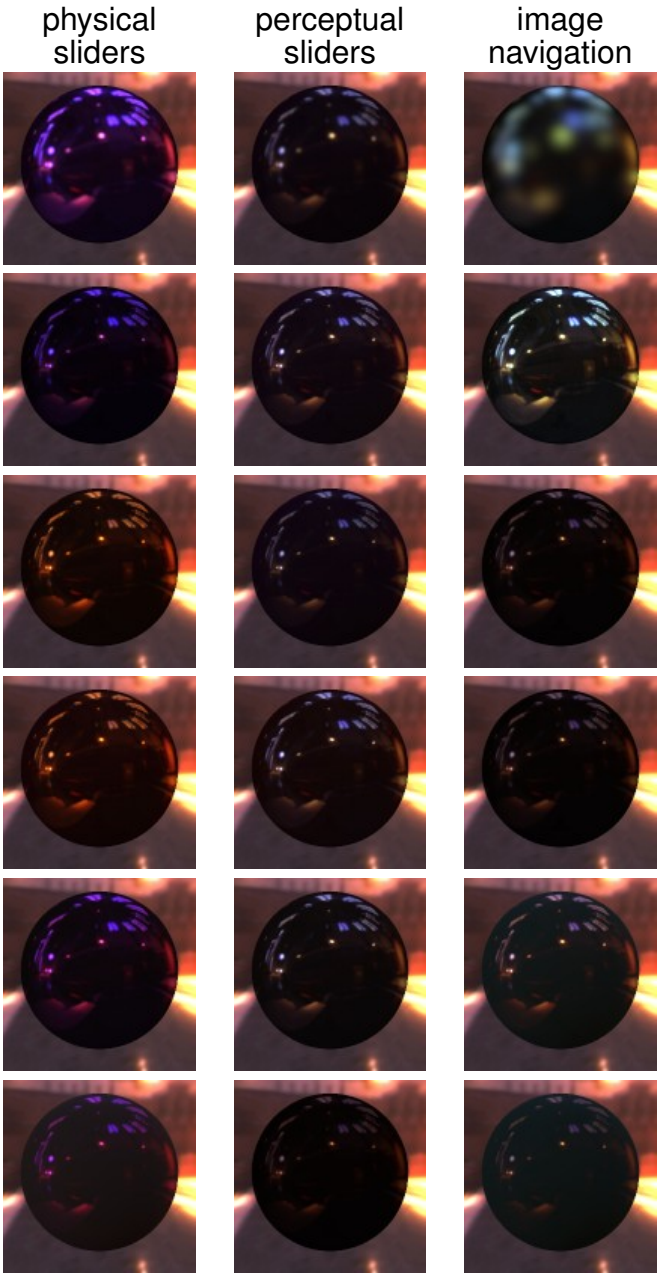

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

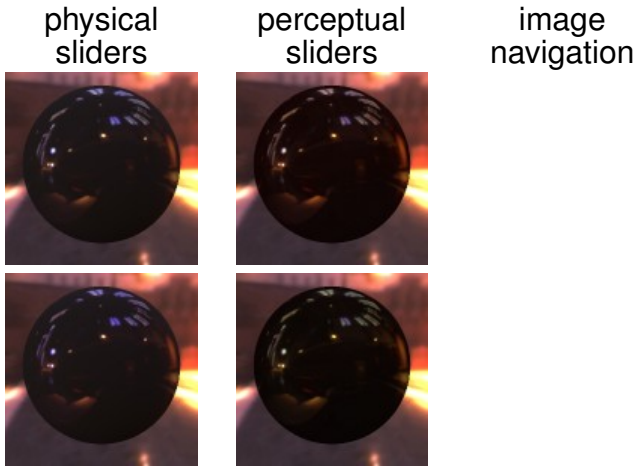

physical sliders
perceptual sliders
image navigation

Trial 4

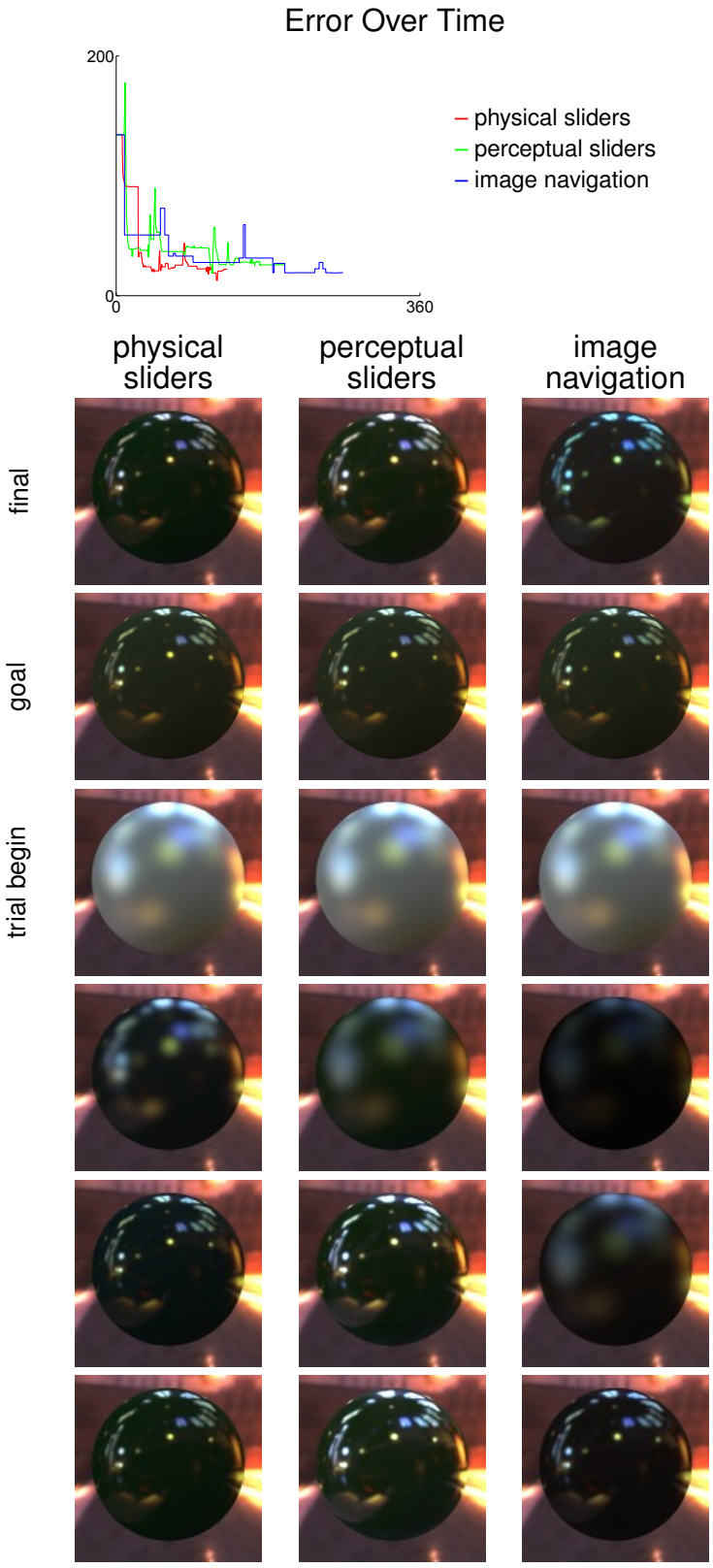

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation

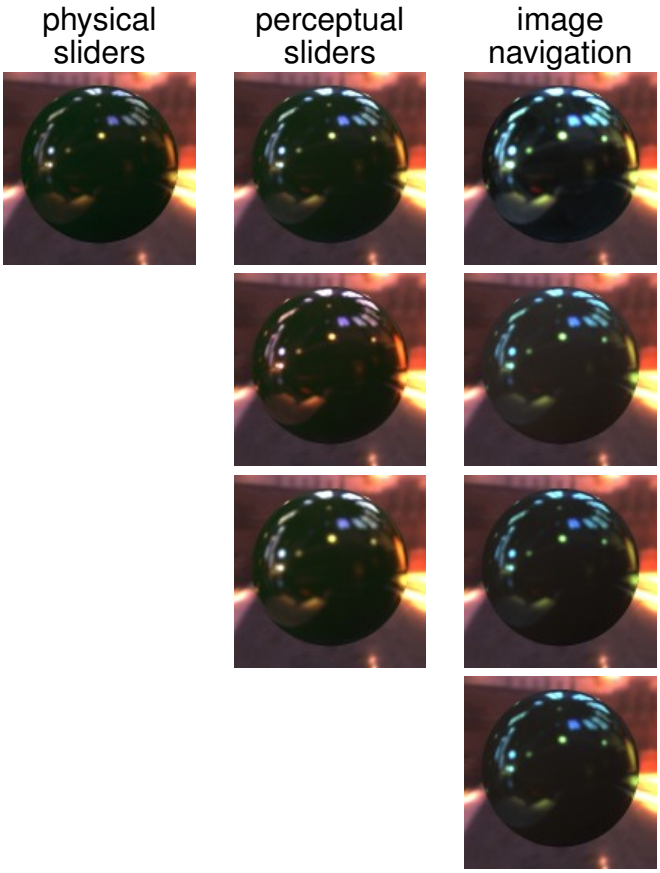

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

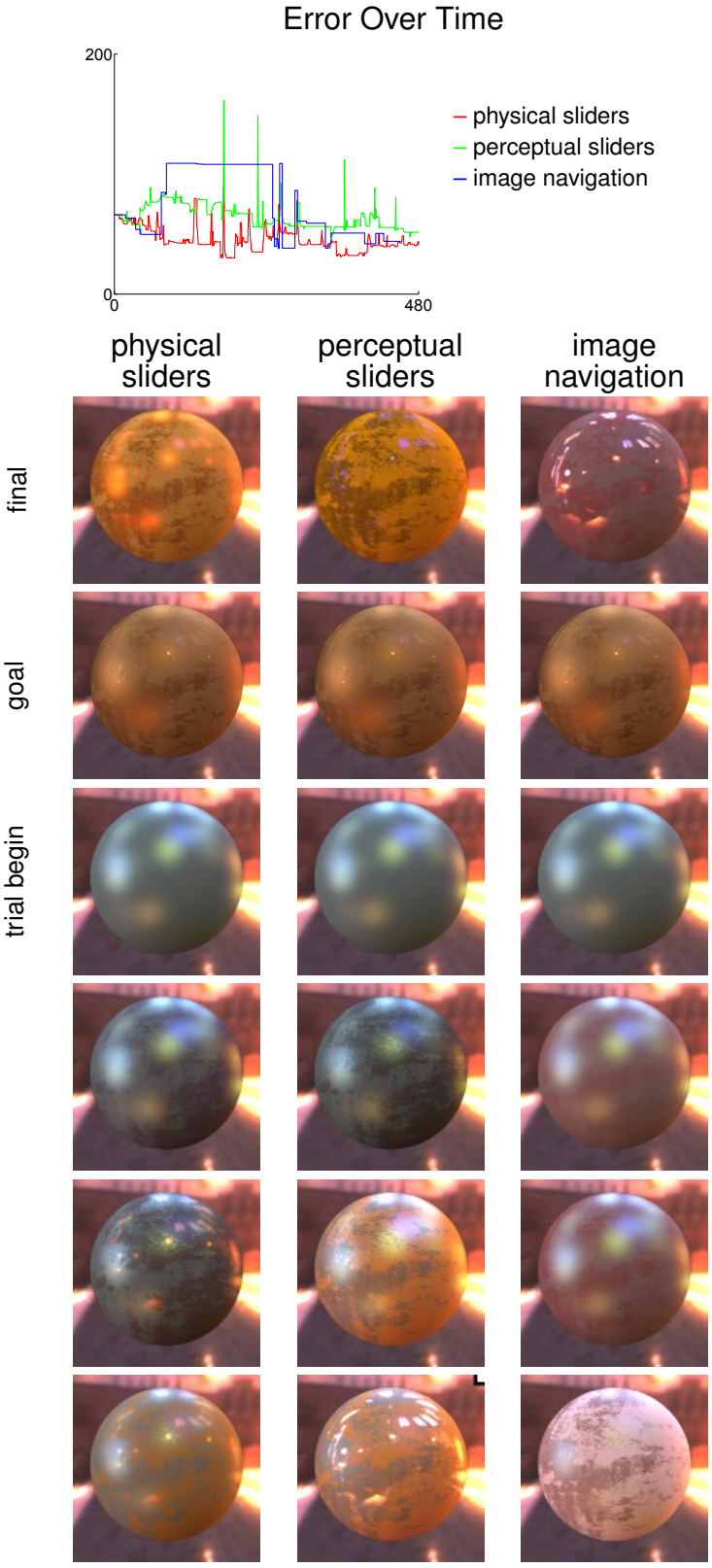

physical
sliders
perceptual
sliders
image
navigation

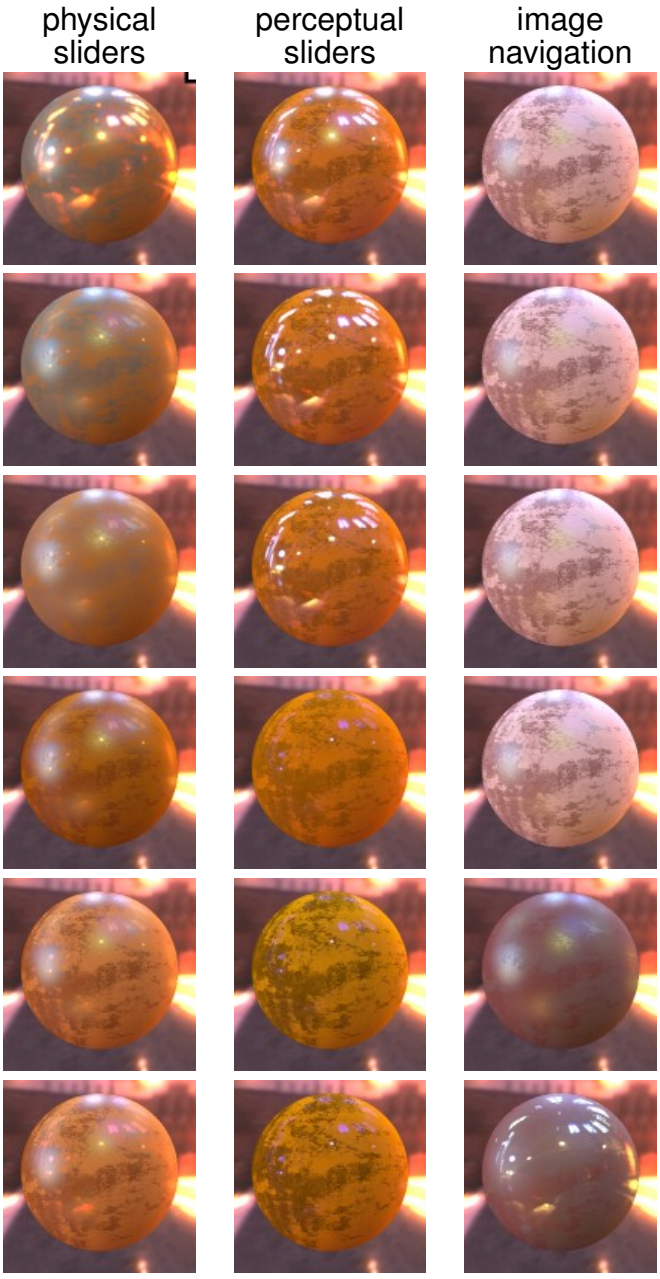
Trial 5

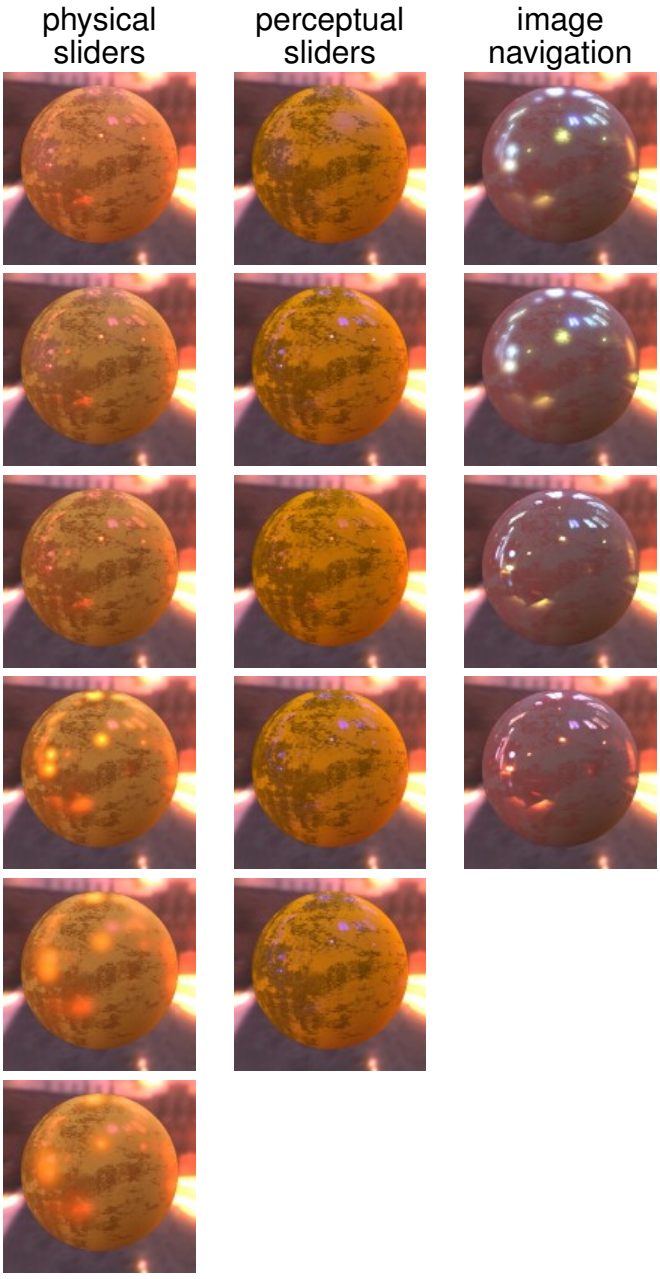

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

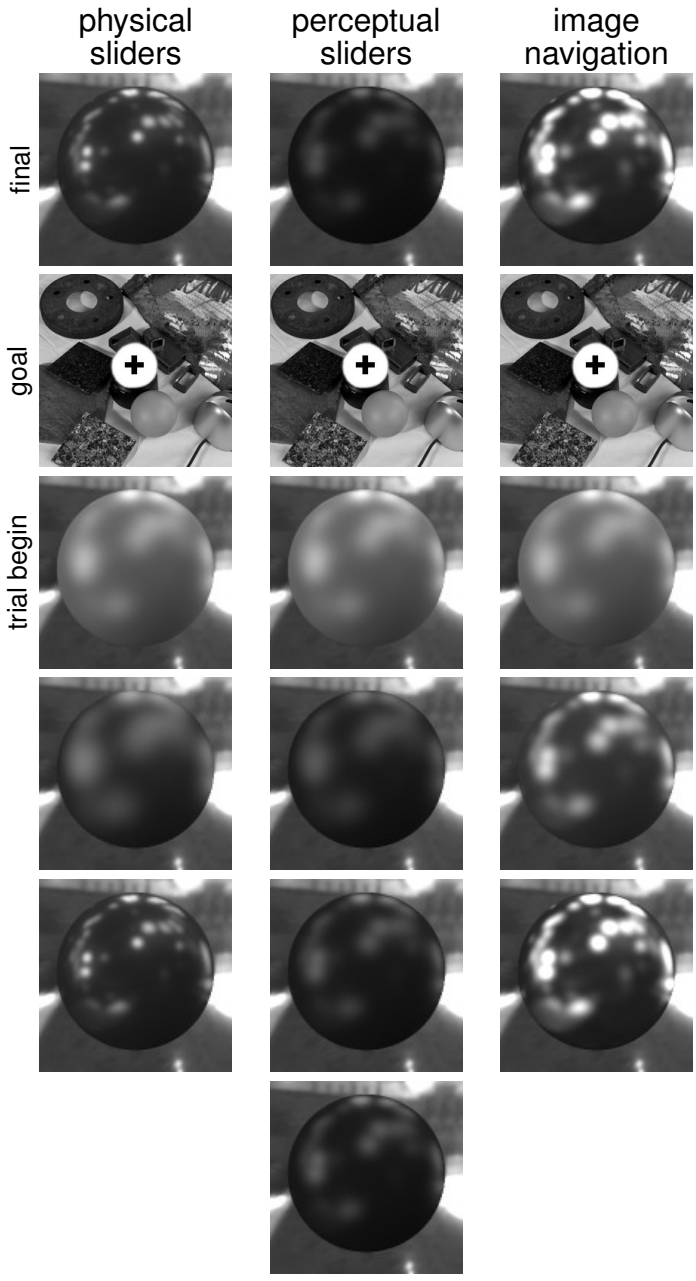
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

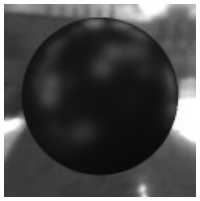
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

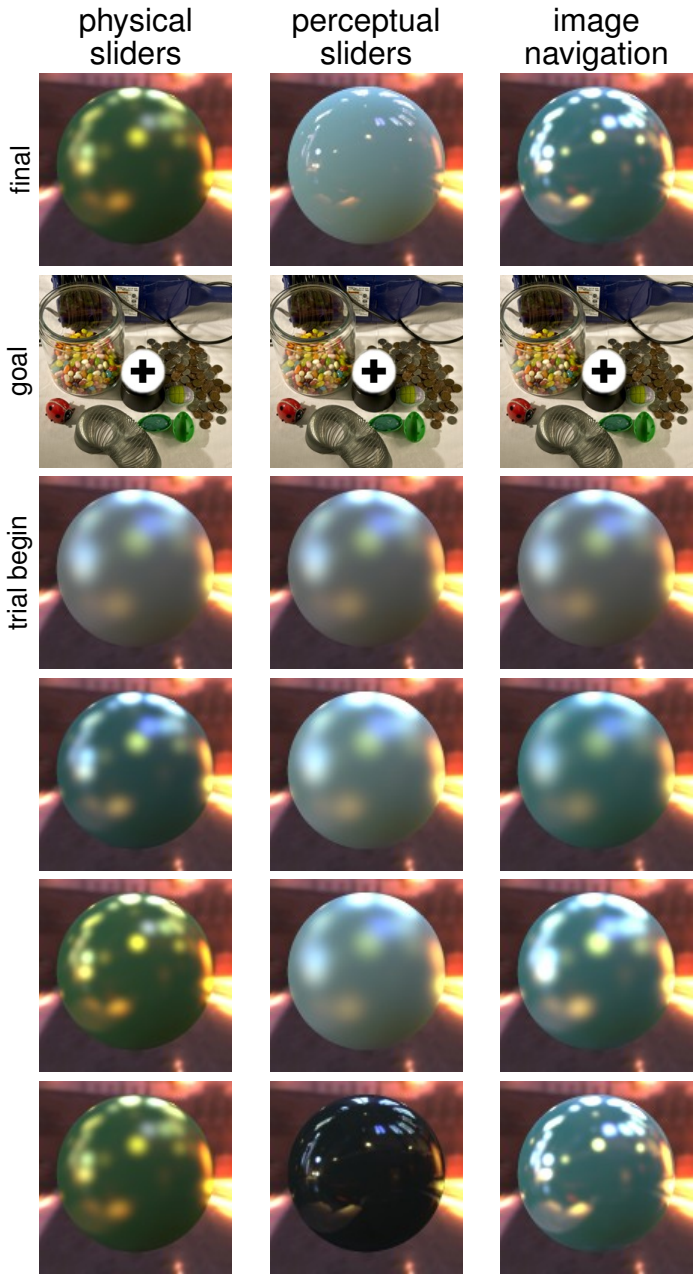
physical sliders

perceptual sliders

image navigation

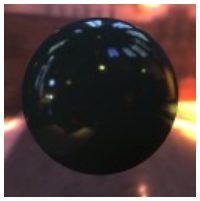


Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders



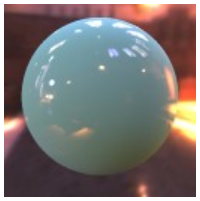
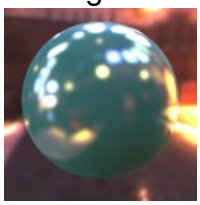
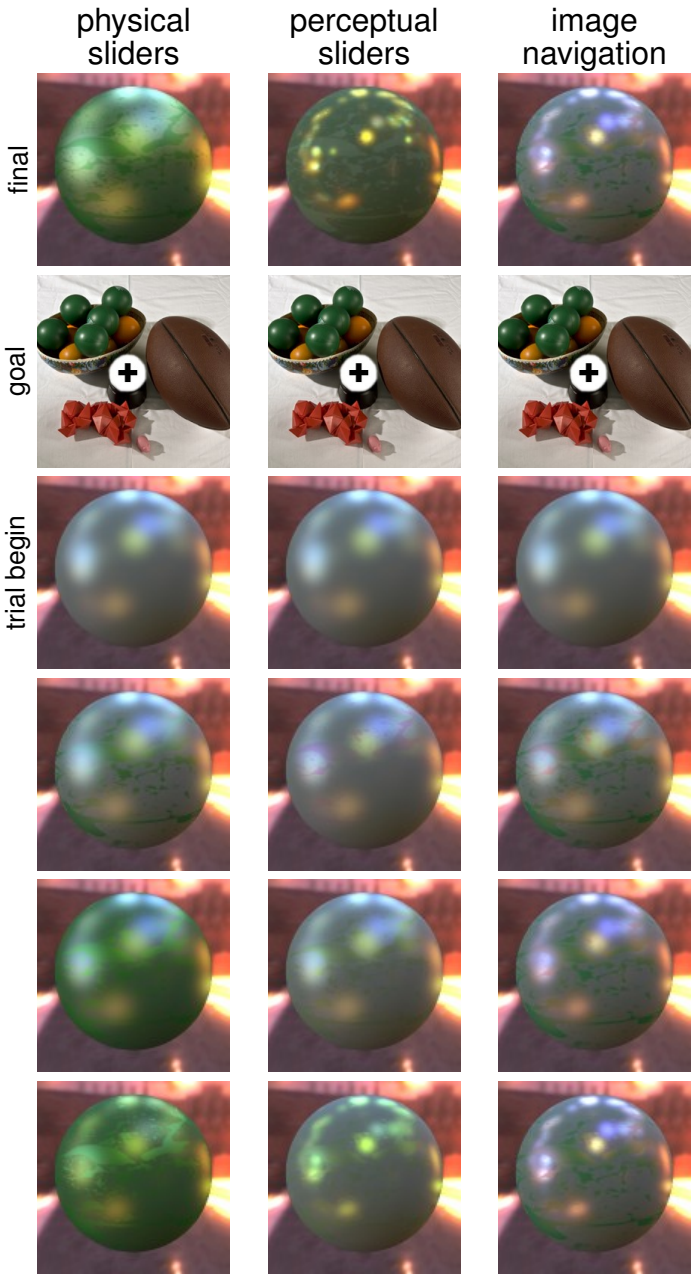
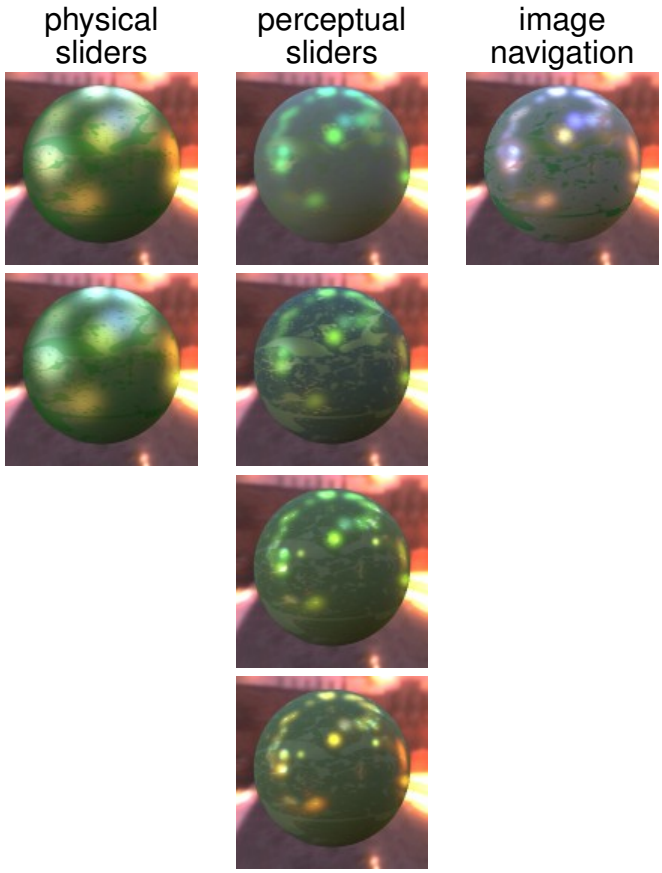


image navigation



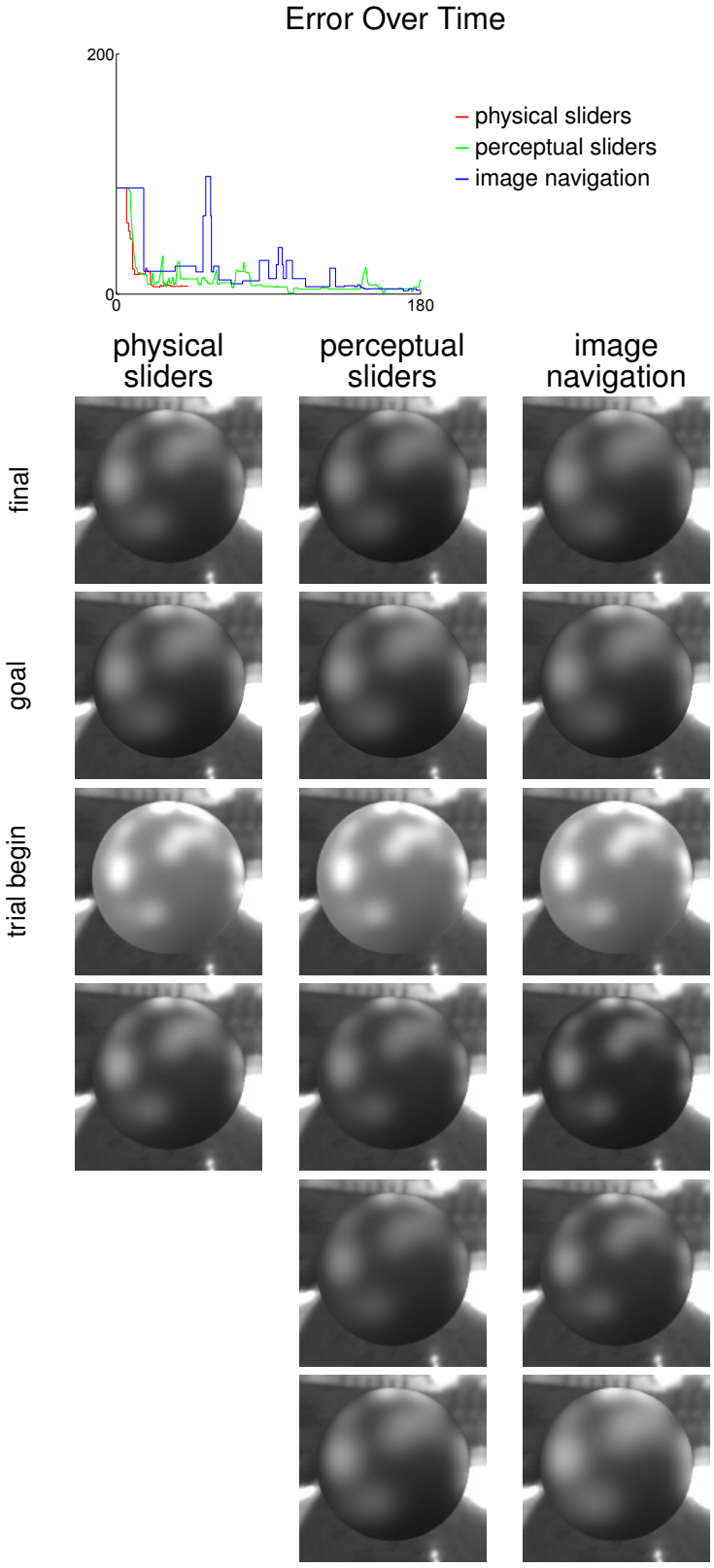
Trial 9

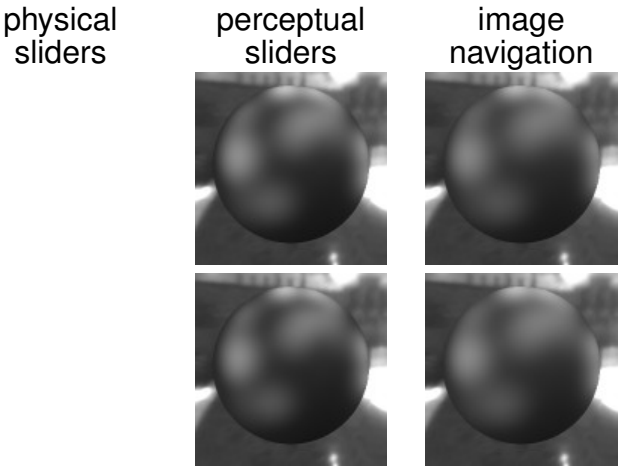

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

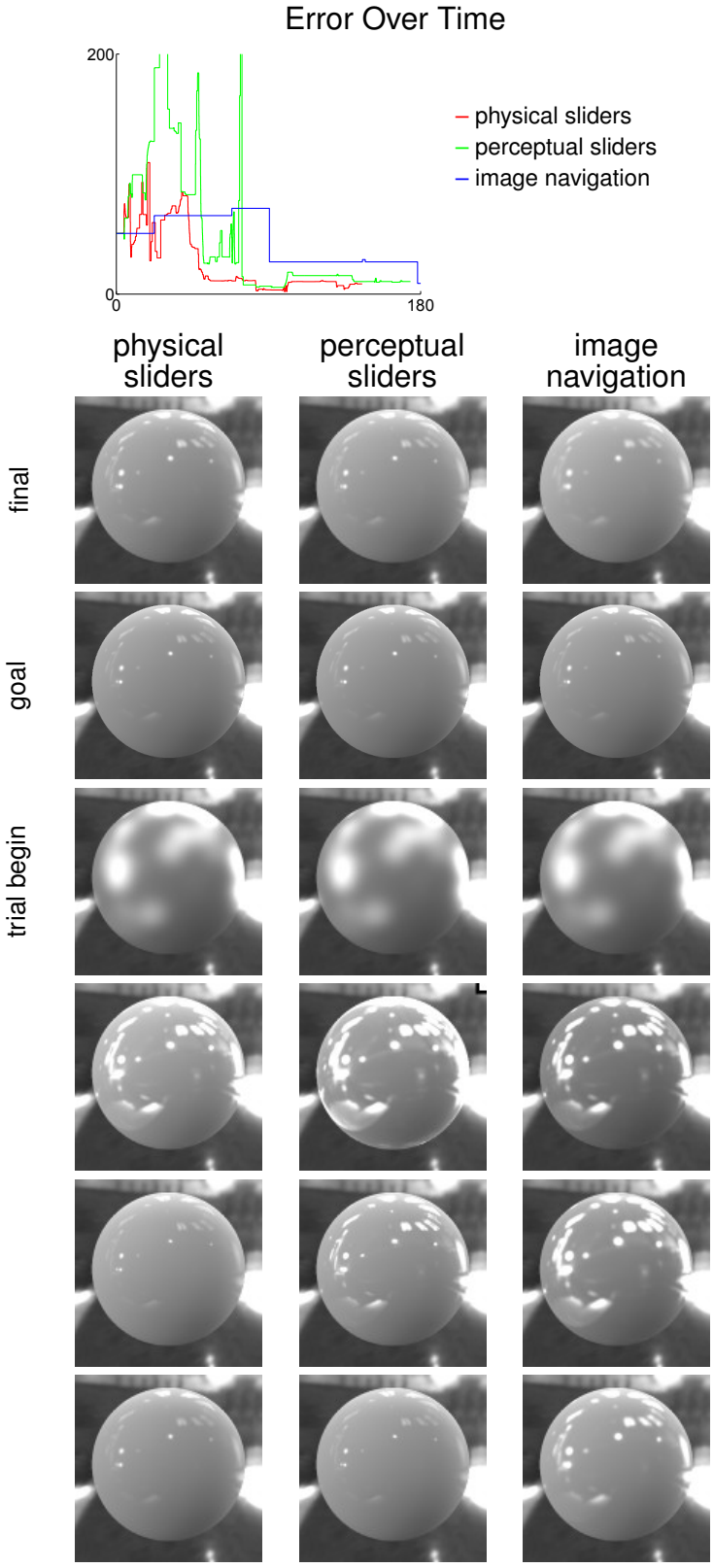
Subject 5

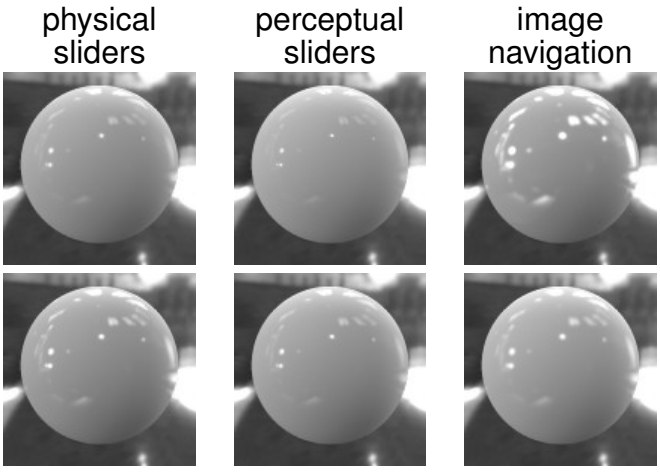
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

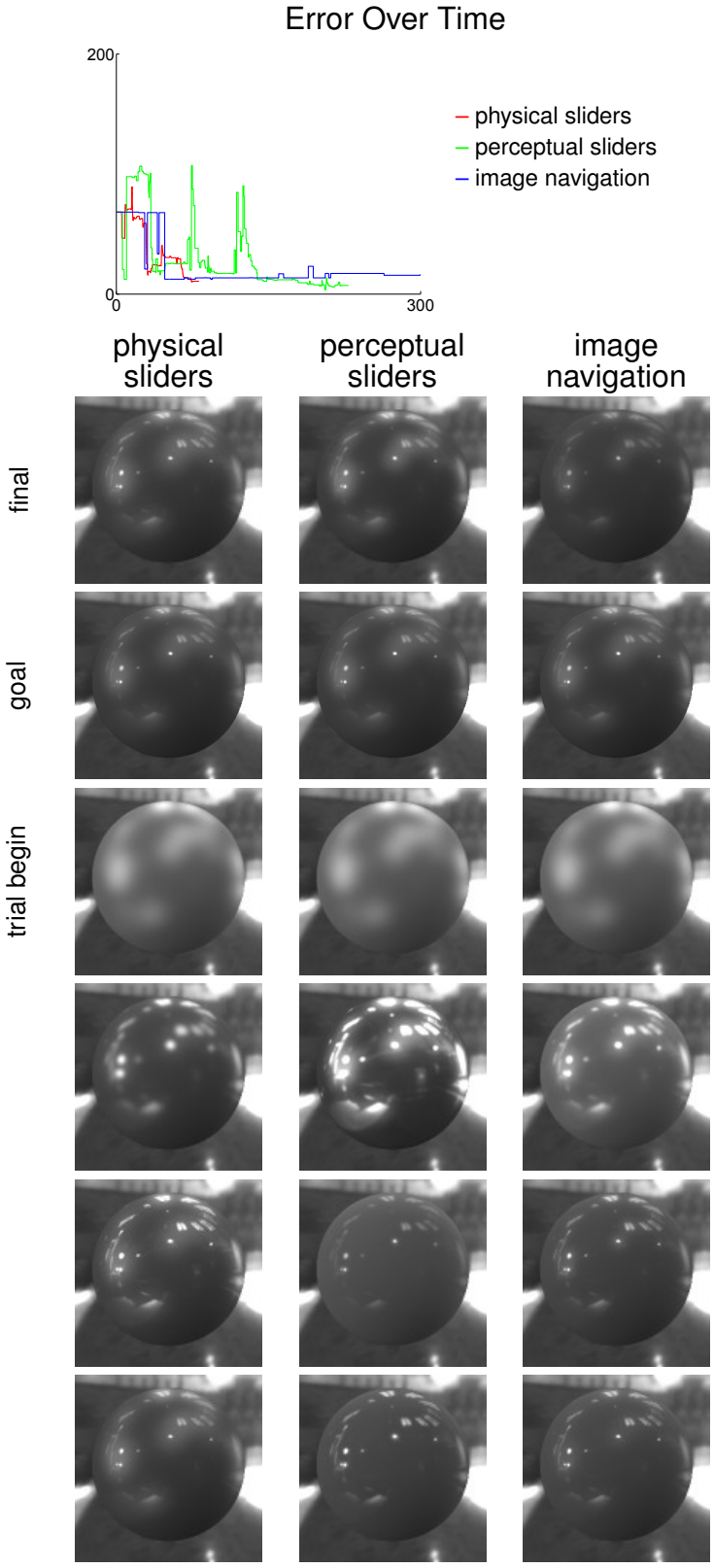

physical sliders
perceptual sliders
image navigation

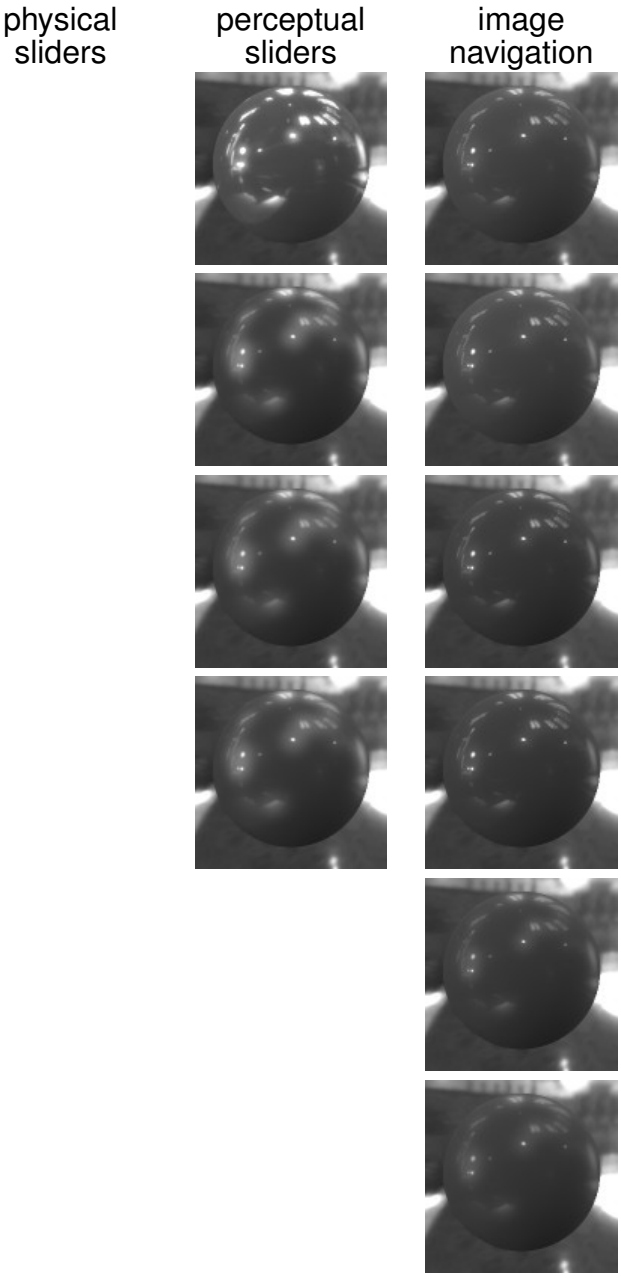
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

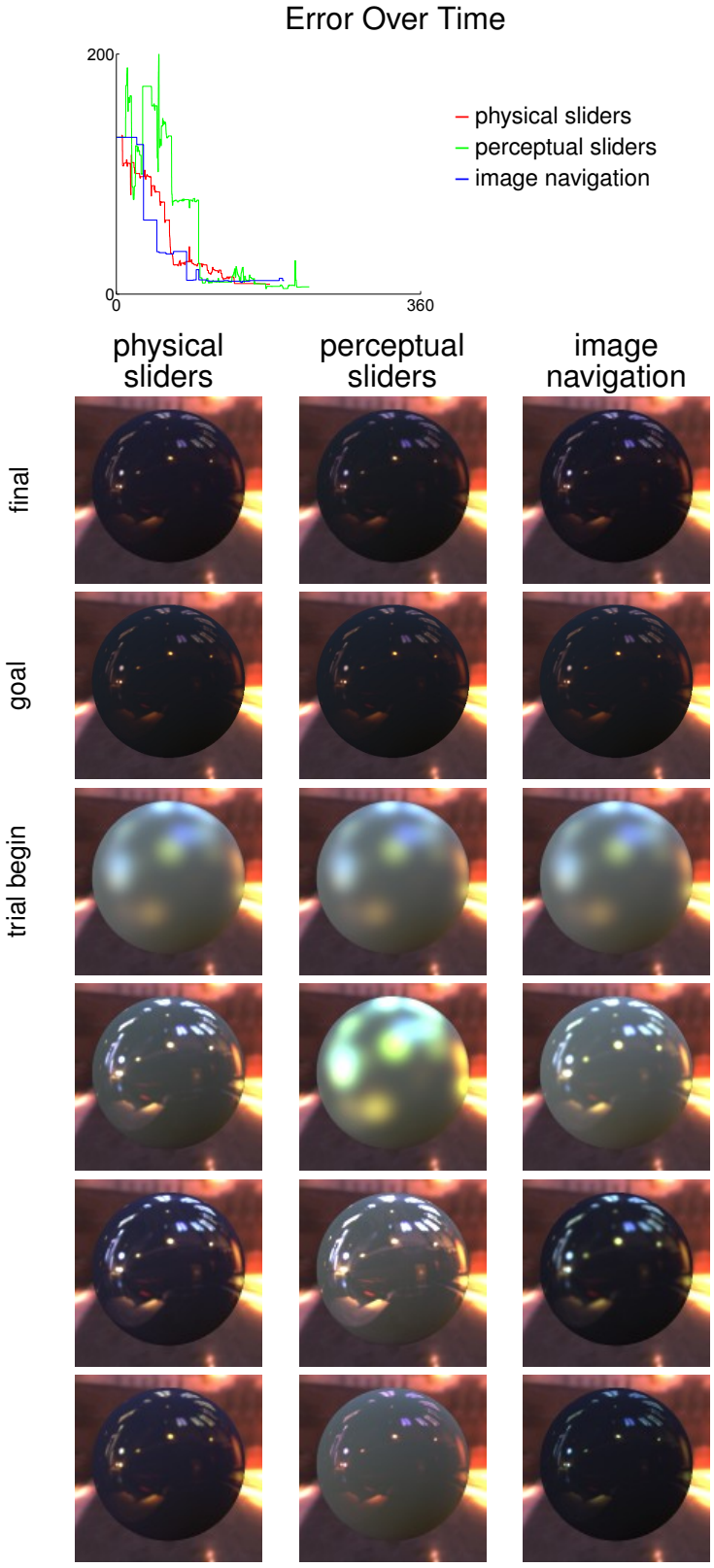

physical sliders
perceptual sliders
image navigation

Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

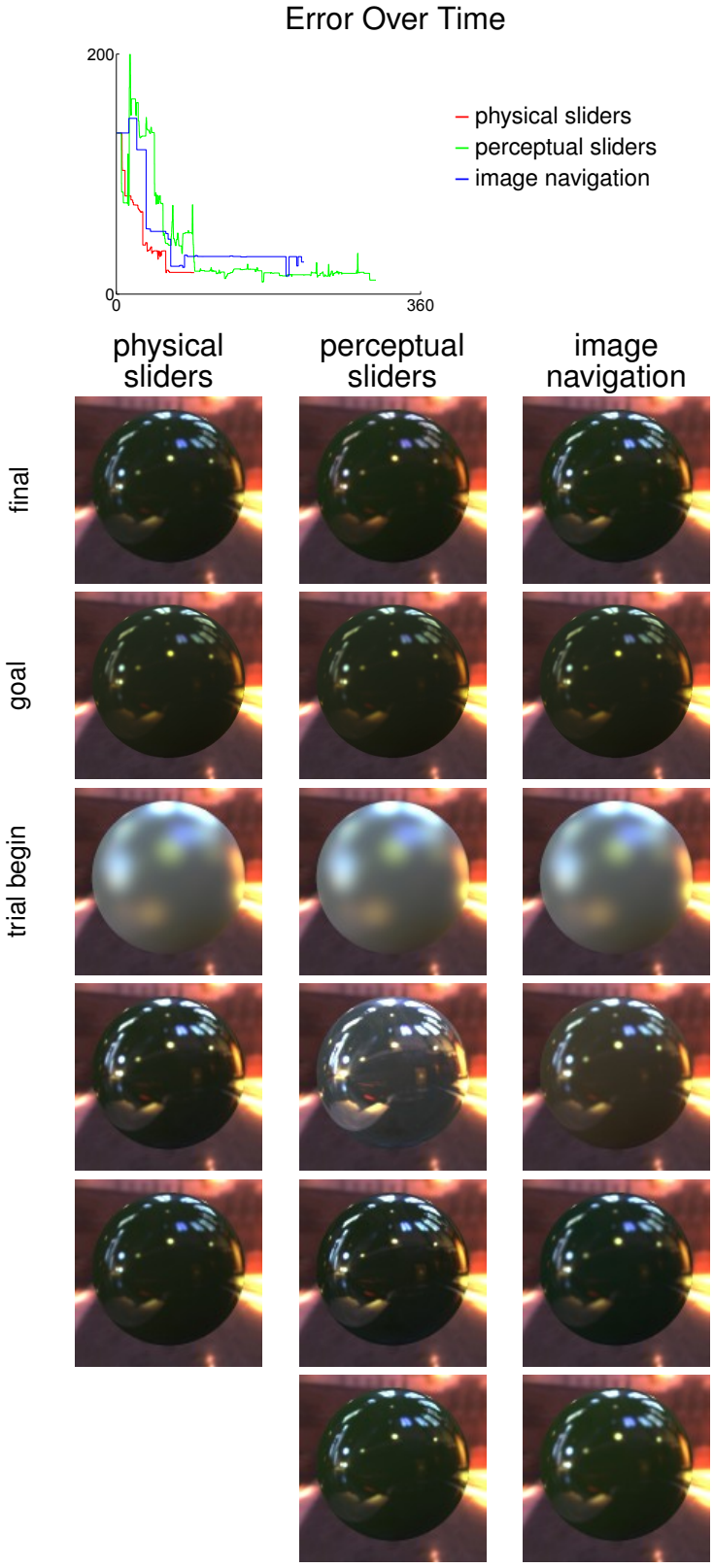

physical sliders
perceptual sliders
image navigation

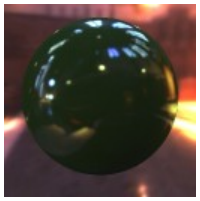
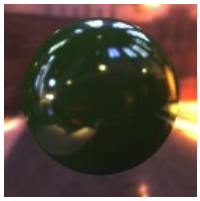
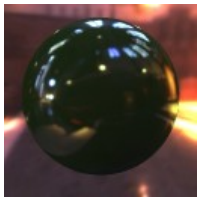
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

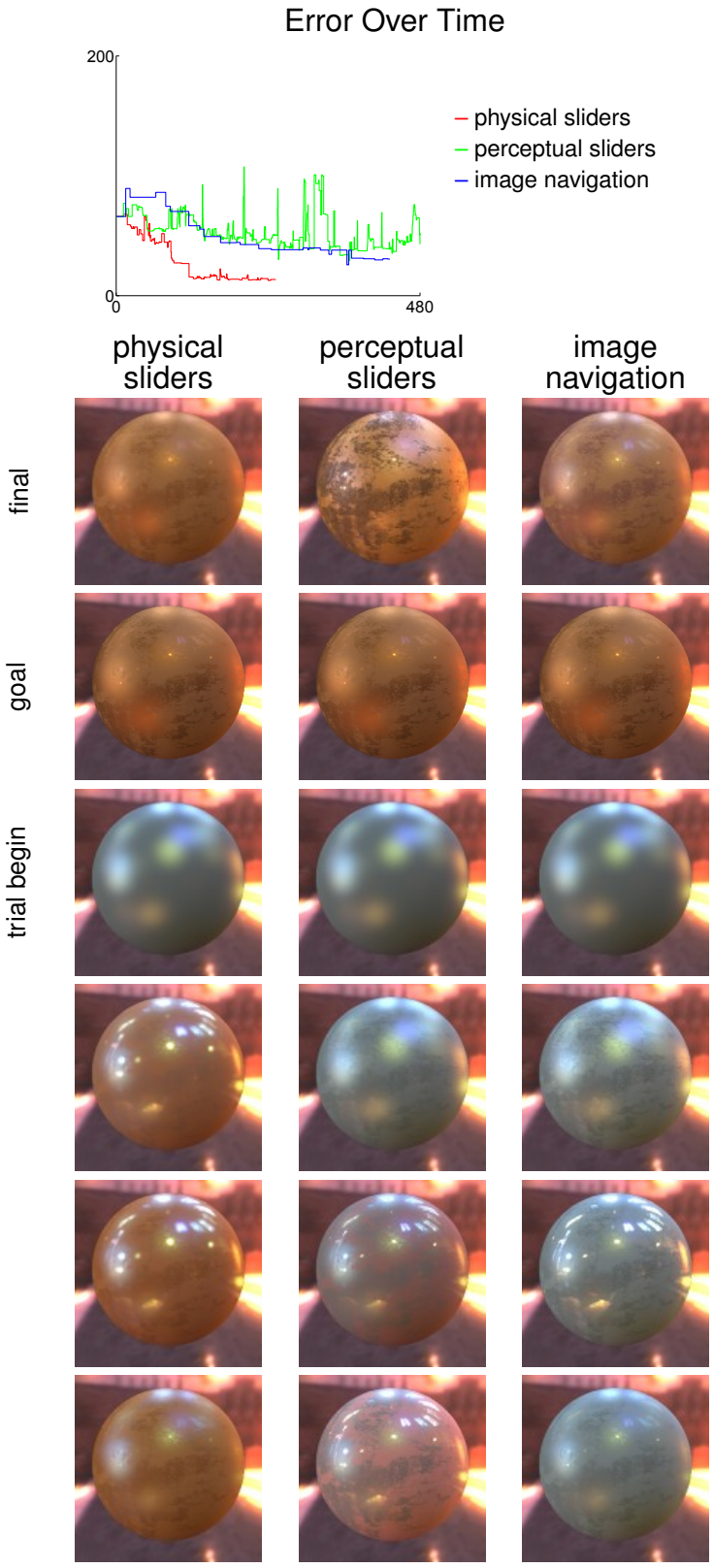
physical sliders
perceptual sliders
image navigation

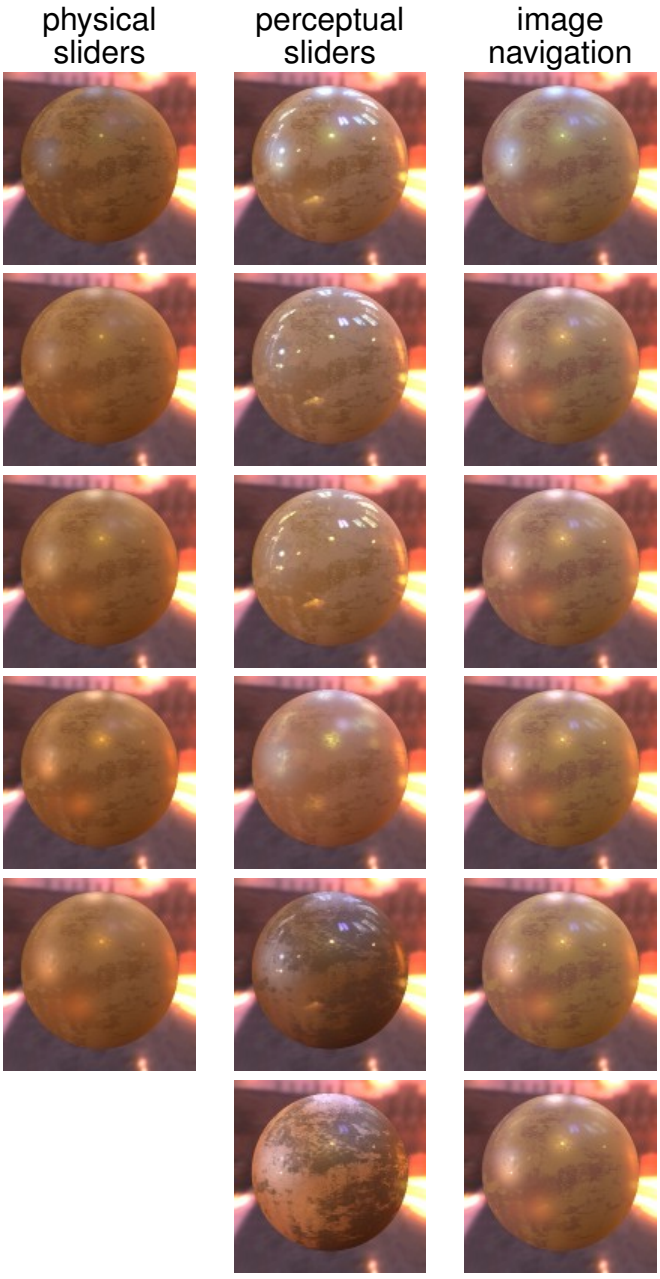
Trial 5


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders	perceptual sliders	image navigation
		
		
		

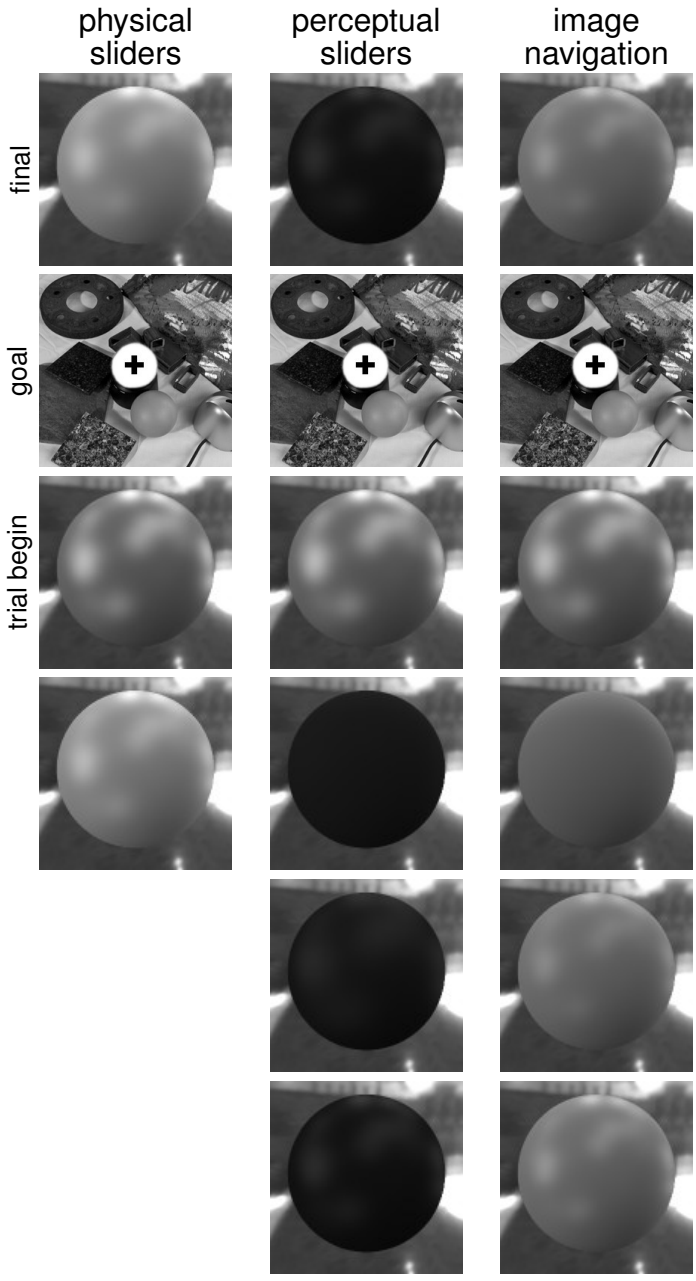
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

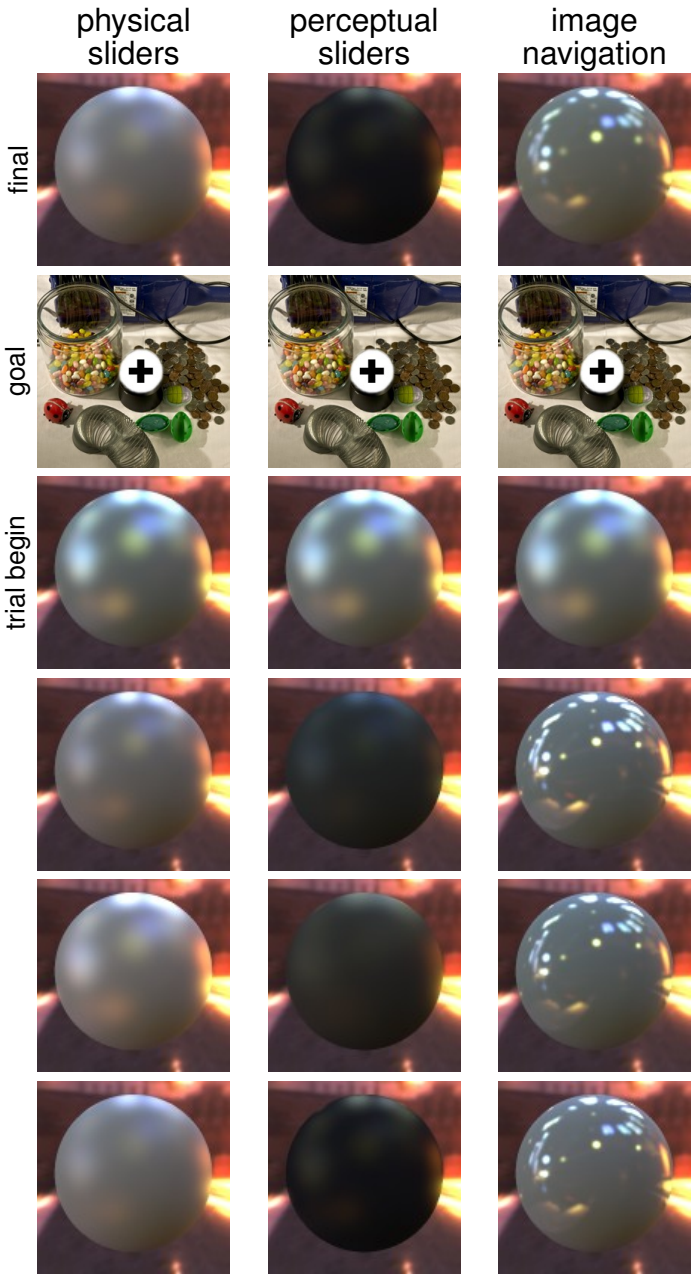

physical sliders
perceptual sliders
image navigation

physical sliders
perceptual sliders
image navigation

Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 8

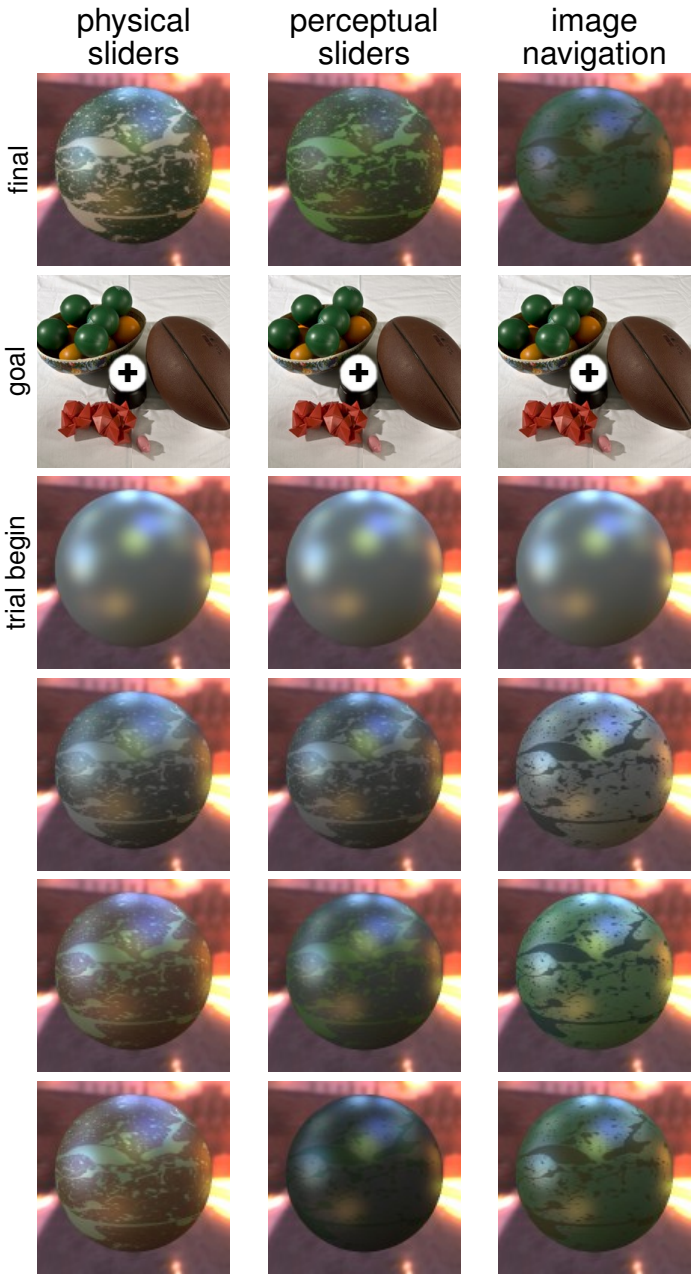

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

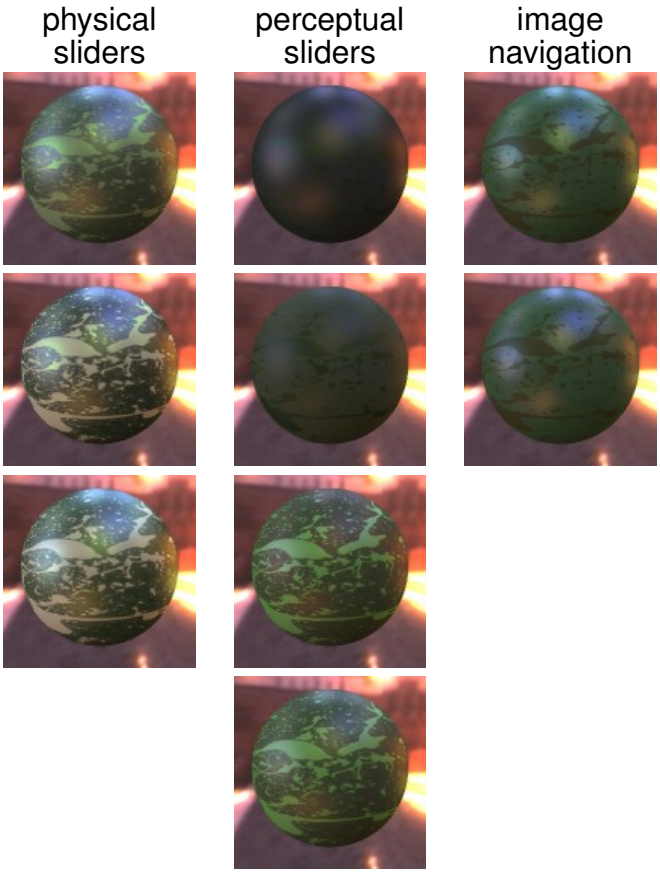
physical sliders

perceptual sliders

image navigation

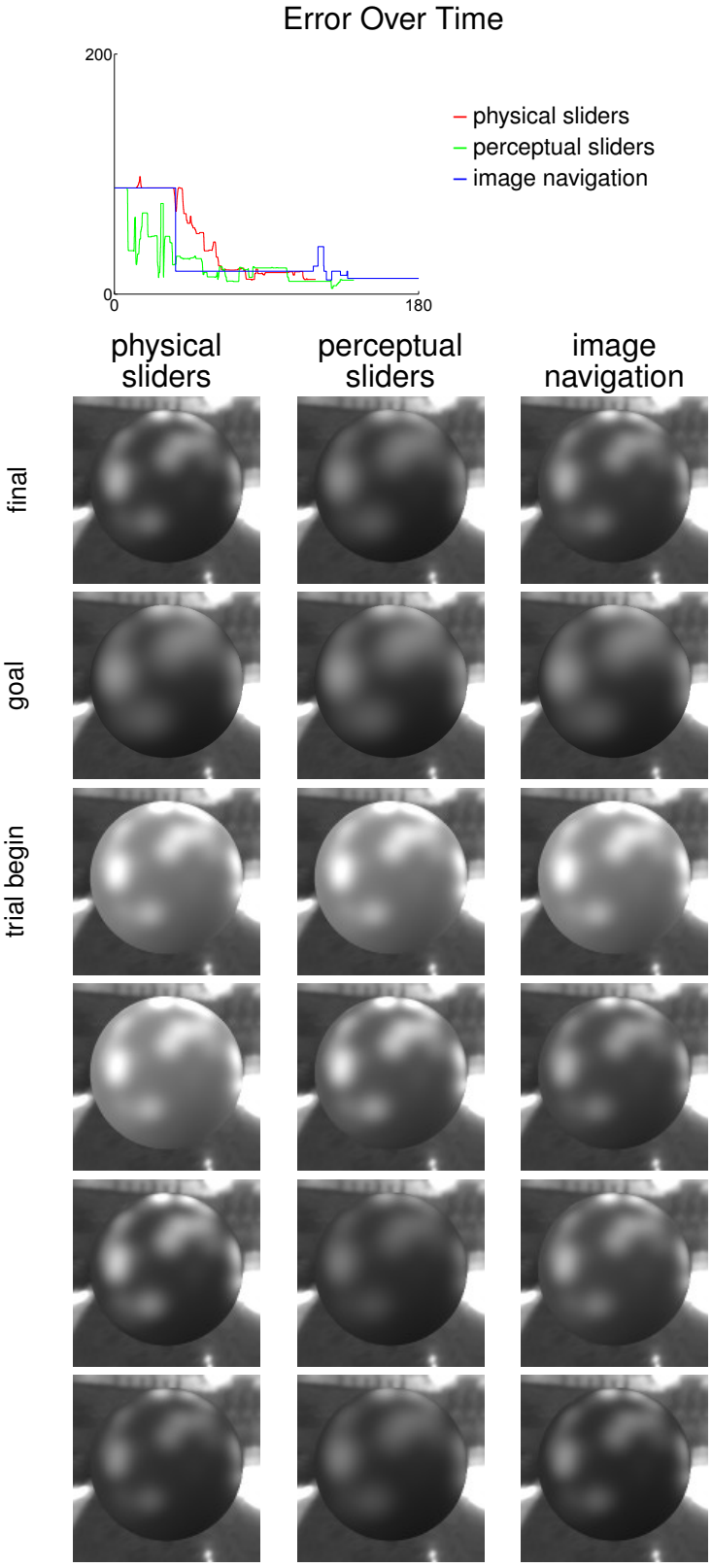
Trial 9

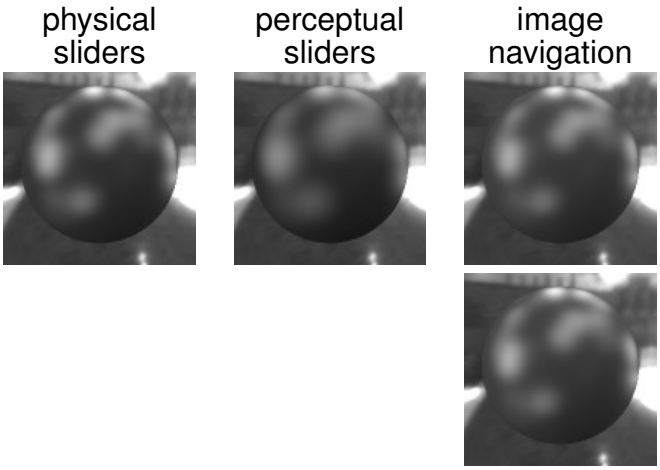

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

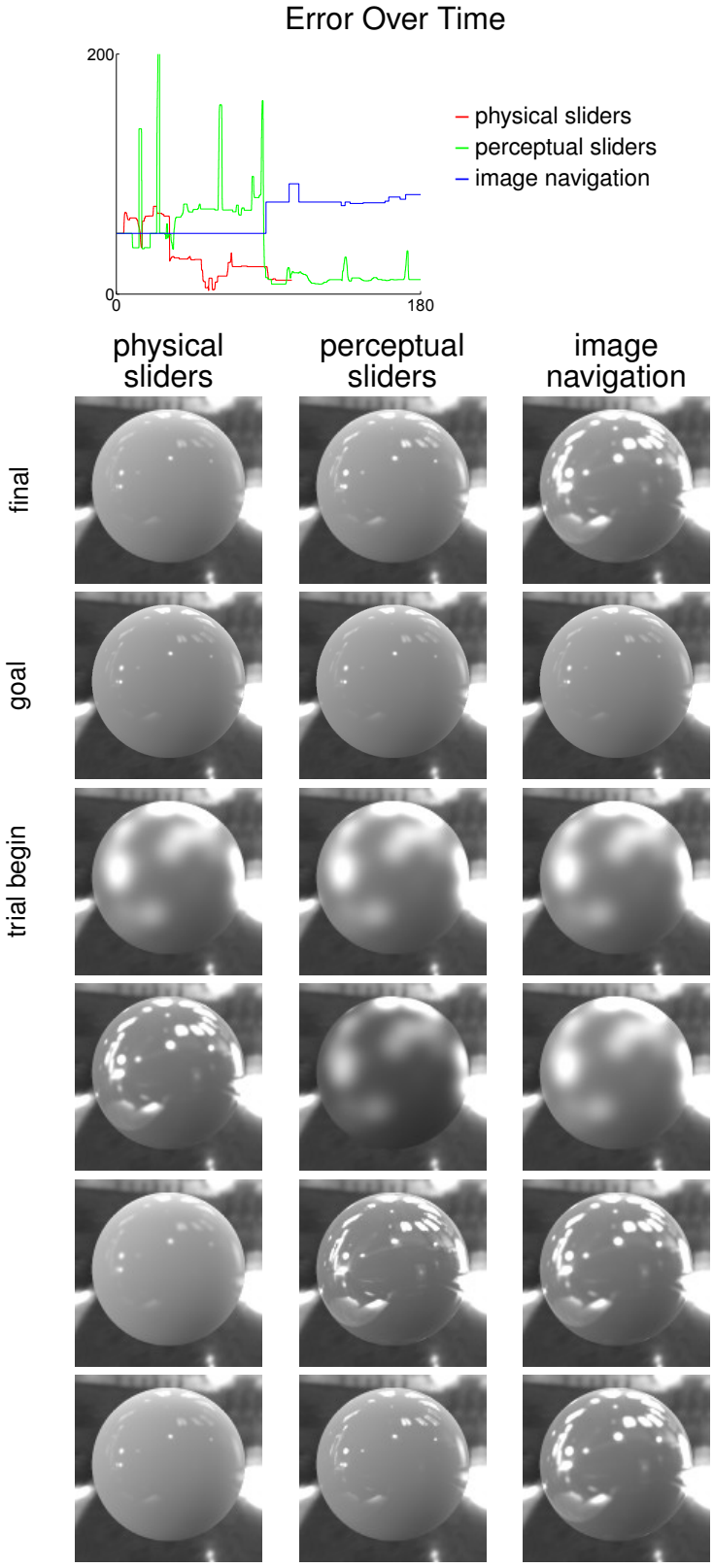
Subject 6

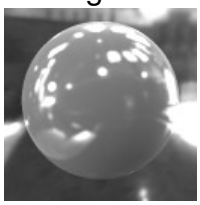
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

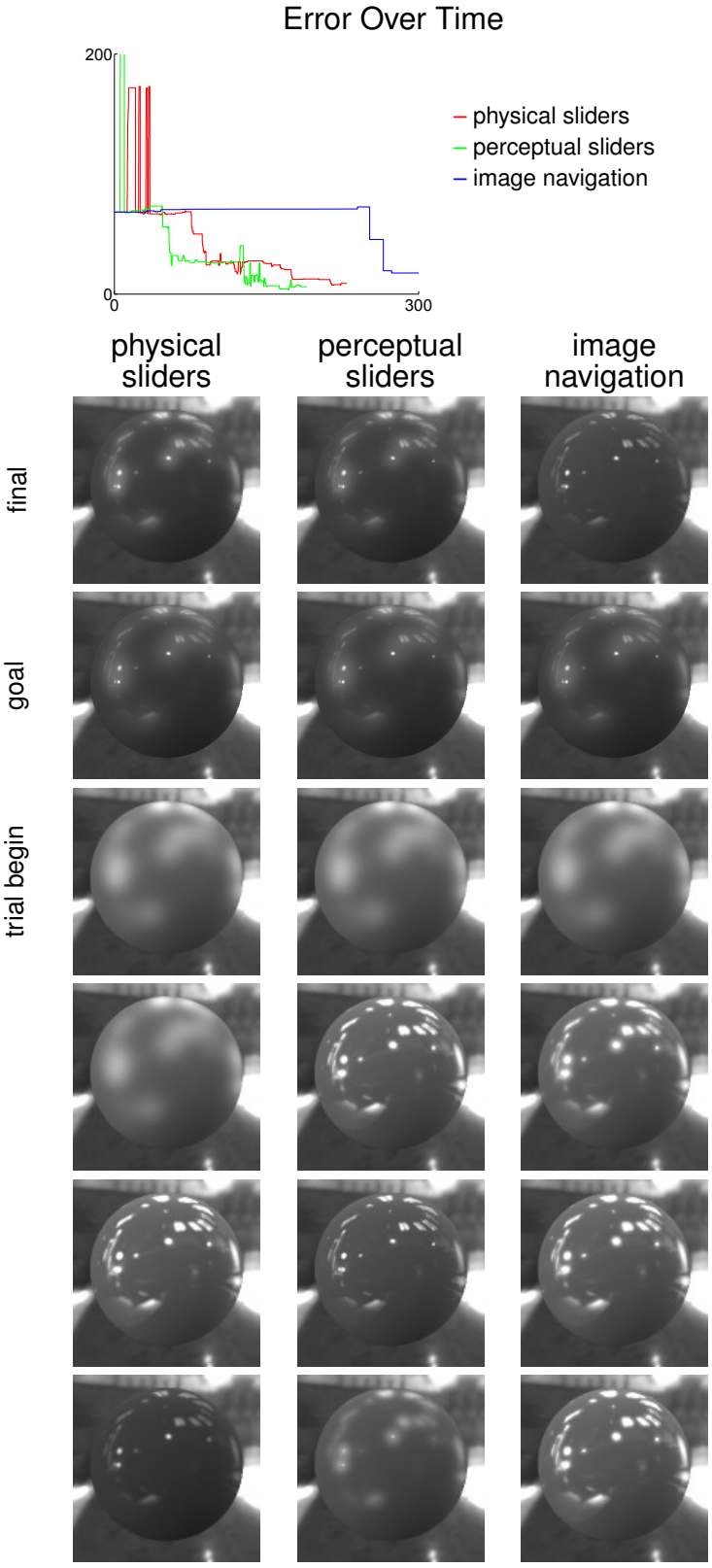

physical sliders
perceptual sliders
image navigation

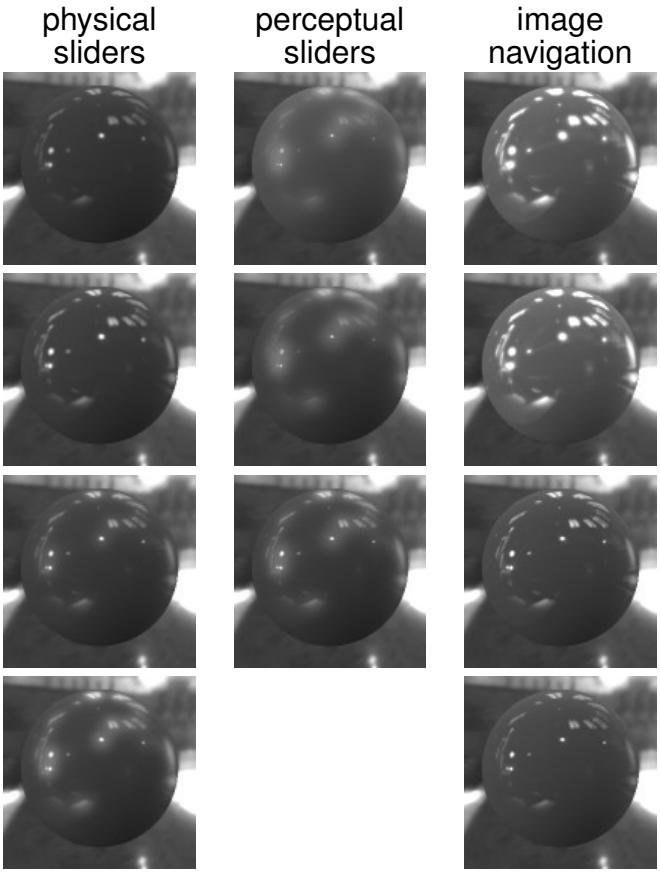
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

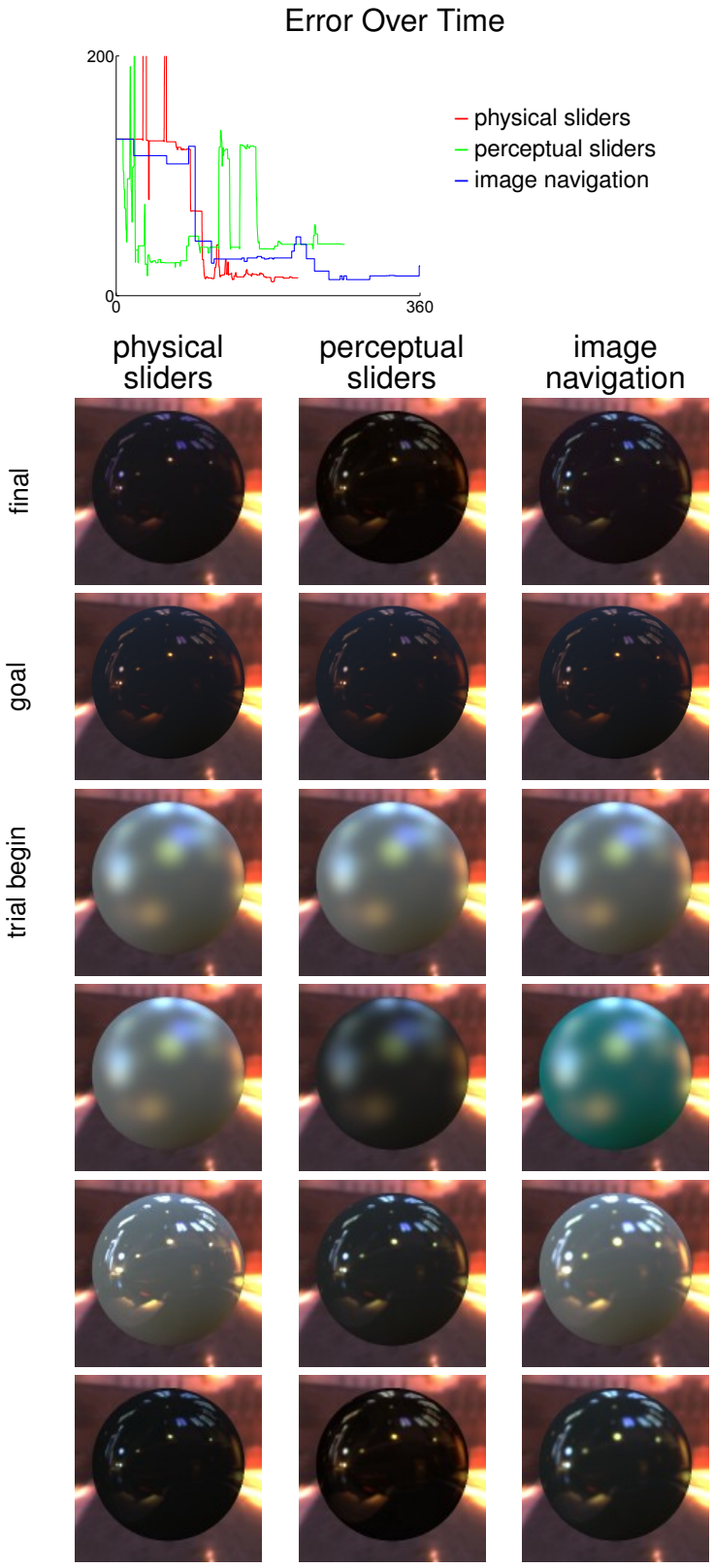
physical sliders	perceptual sliders	image navigation
		

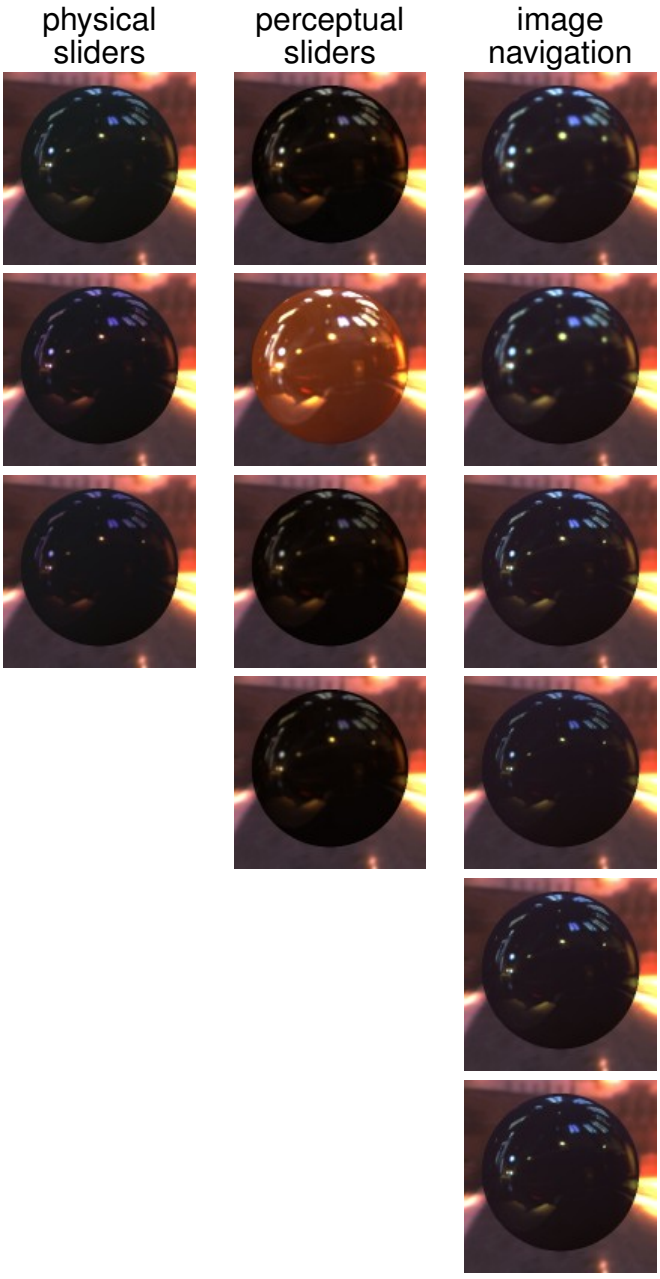
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 4

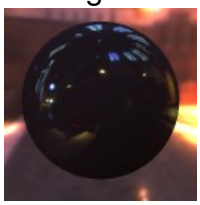

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

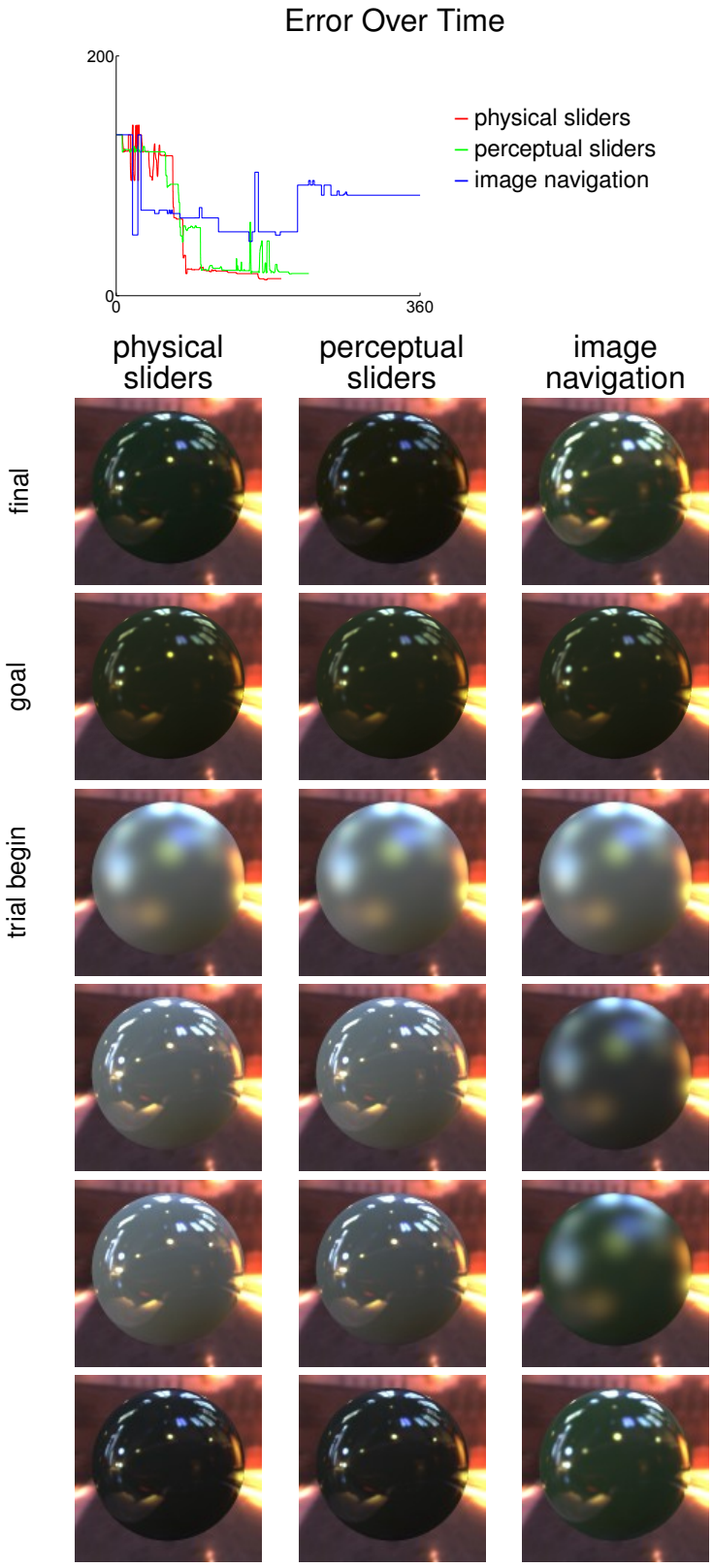
physical sliders

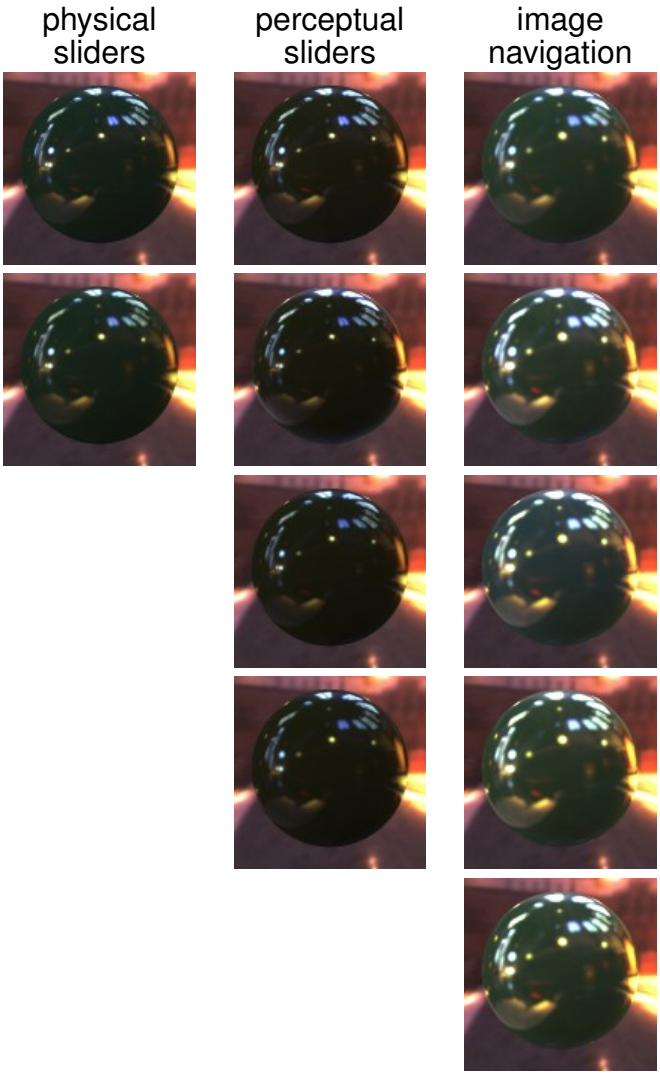
perceptual sliders

image navigation

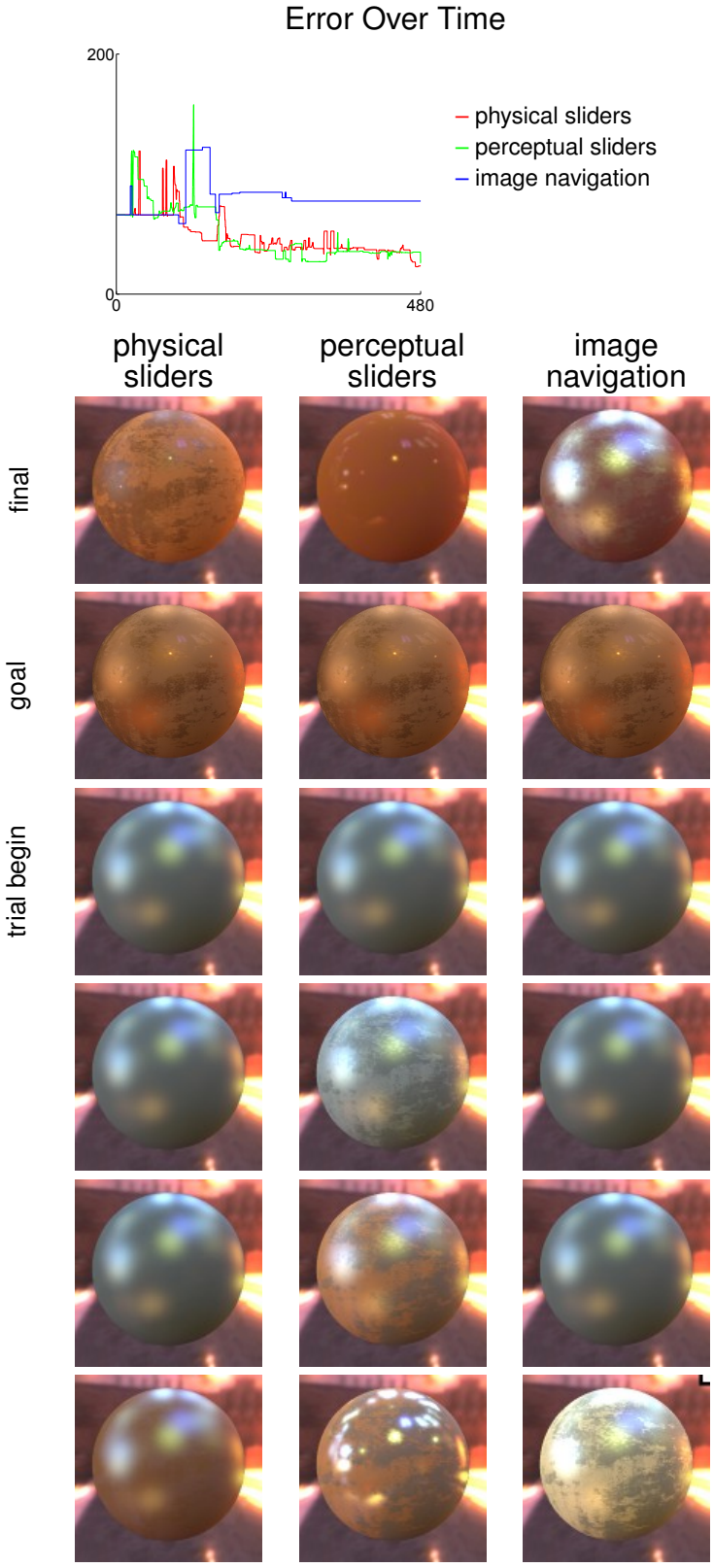


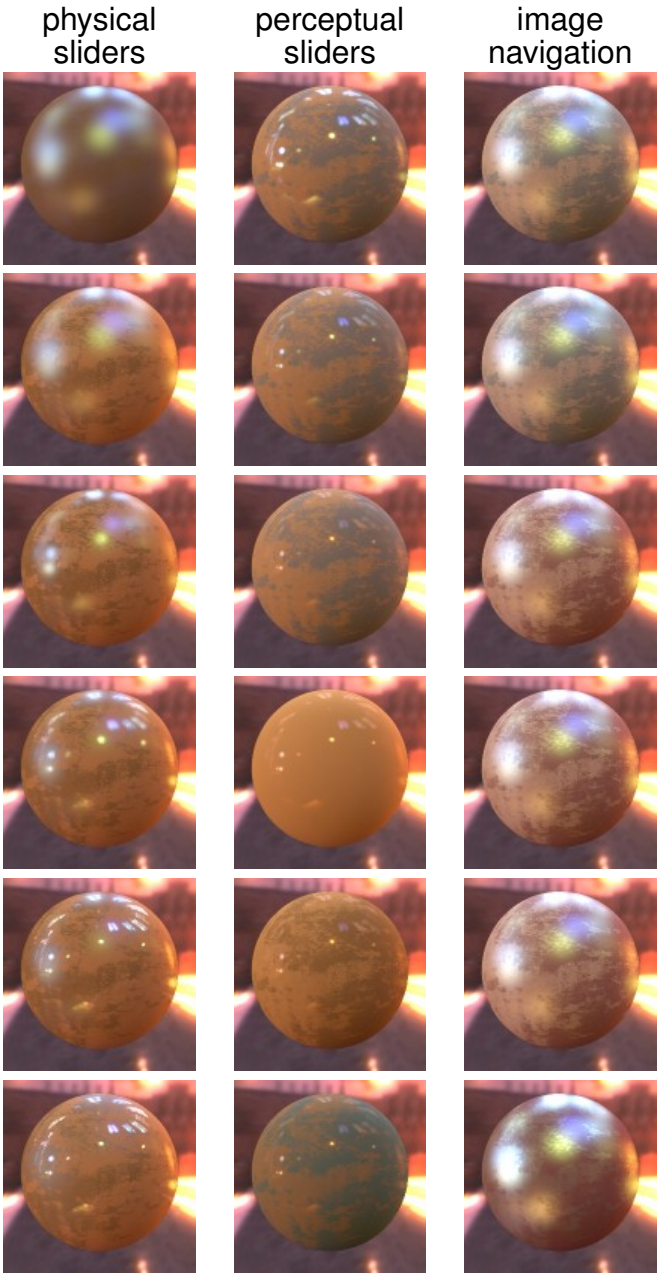
Trial 5

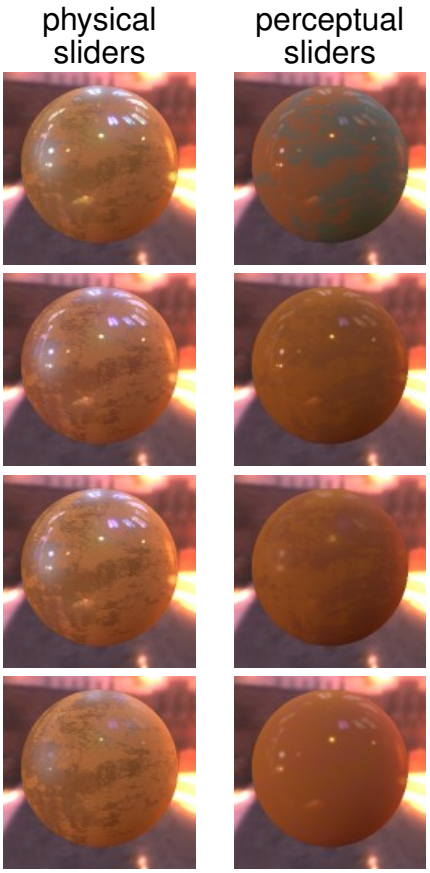

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

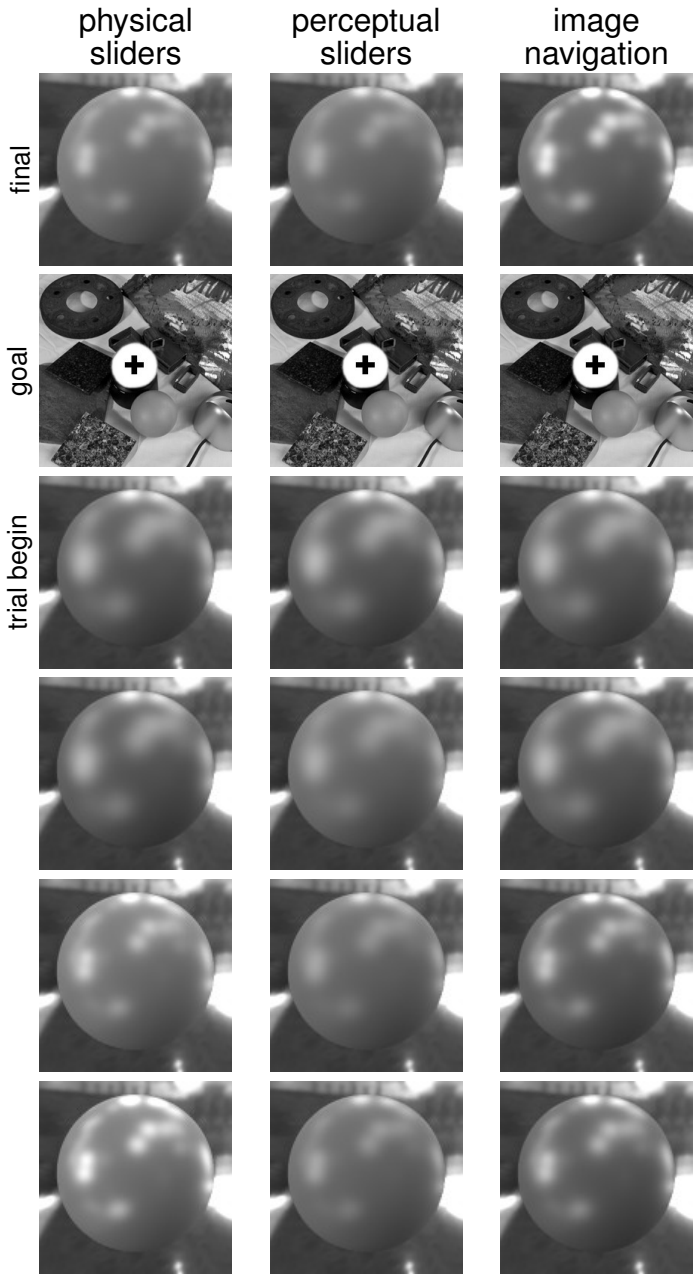
Trial 6

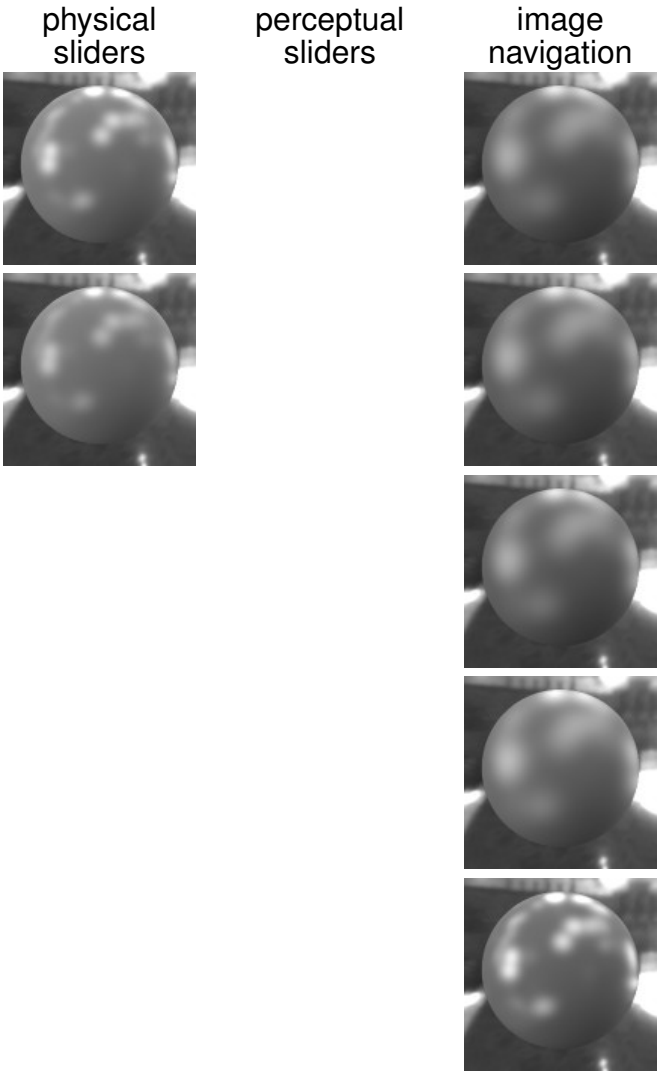

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

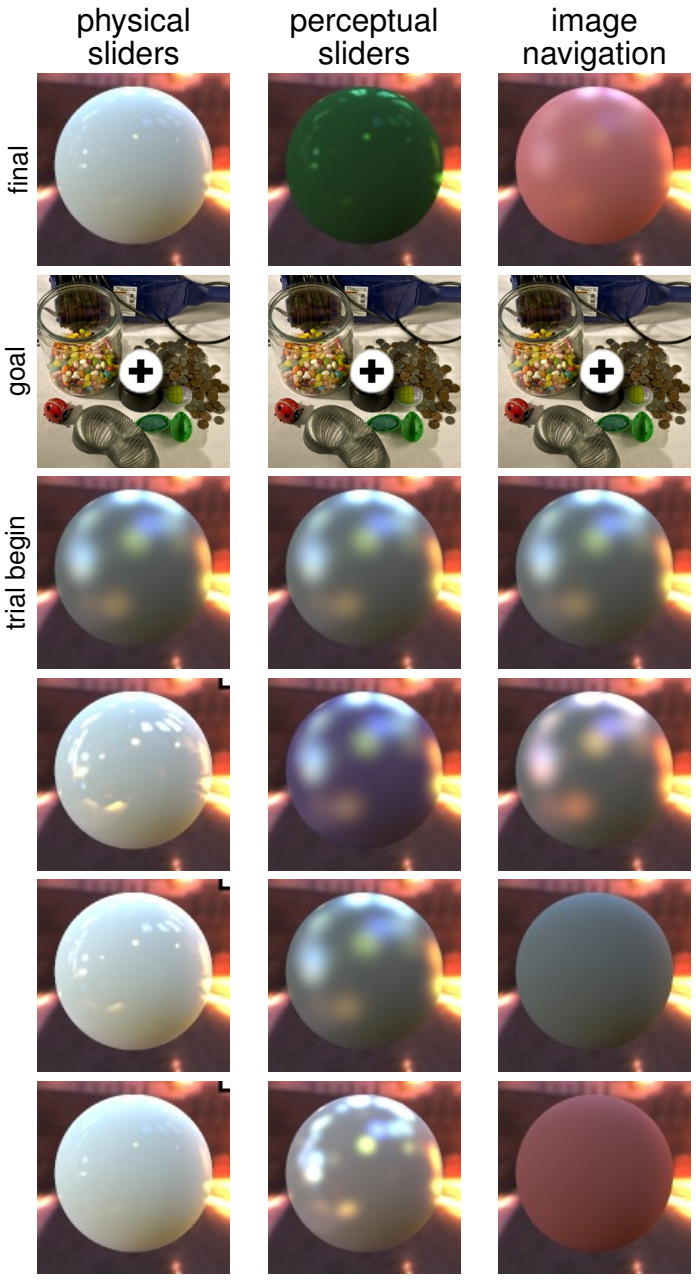

physical sliders
perceptual sliders
image navigation

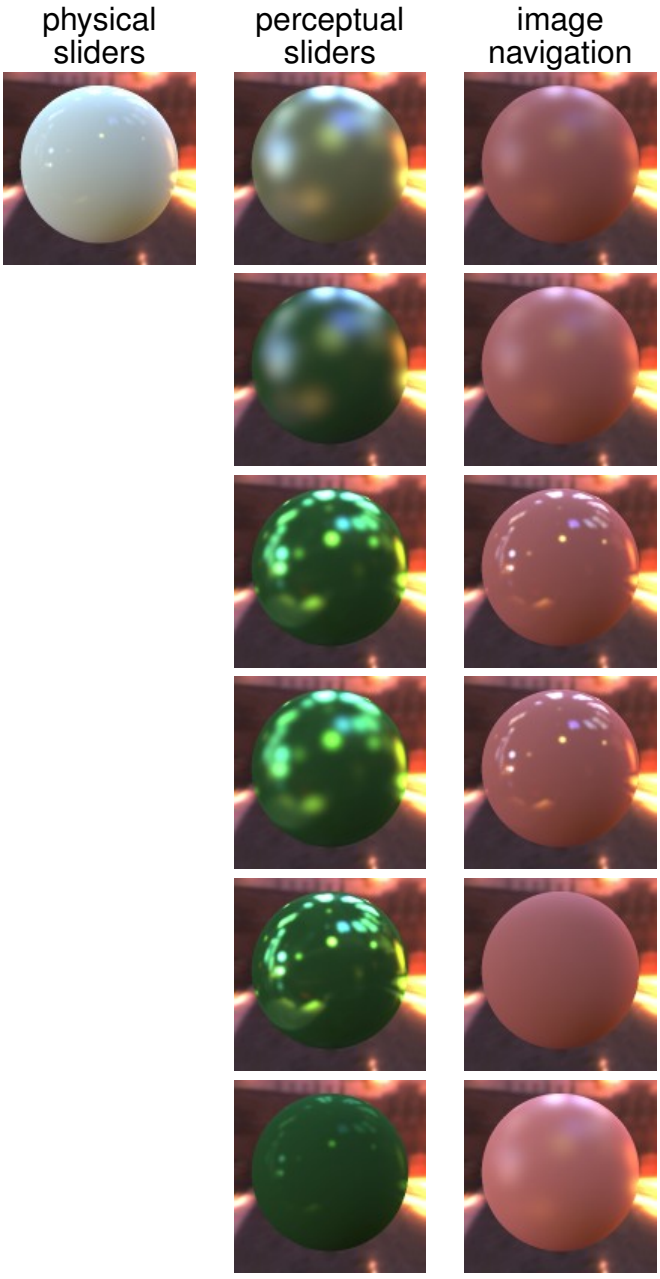
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 8

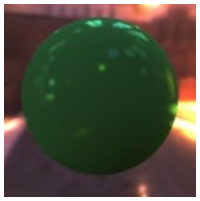

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

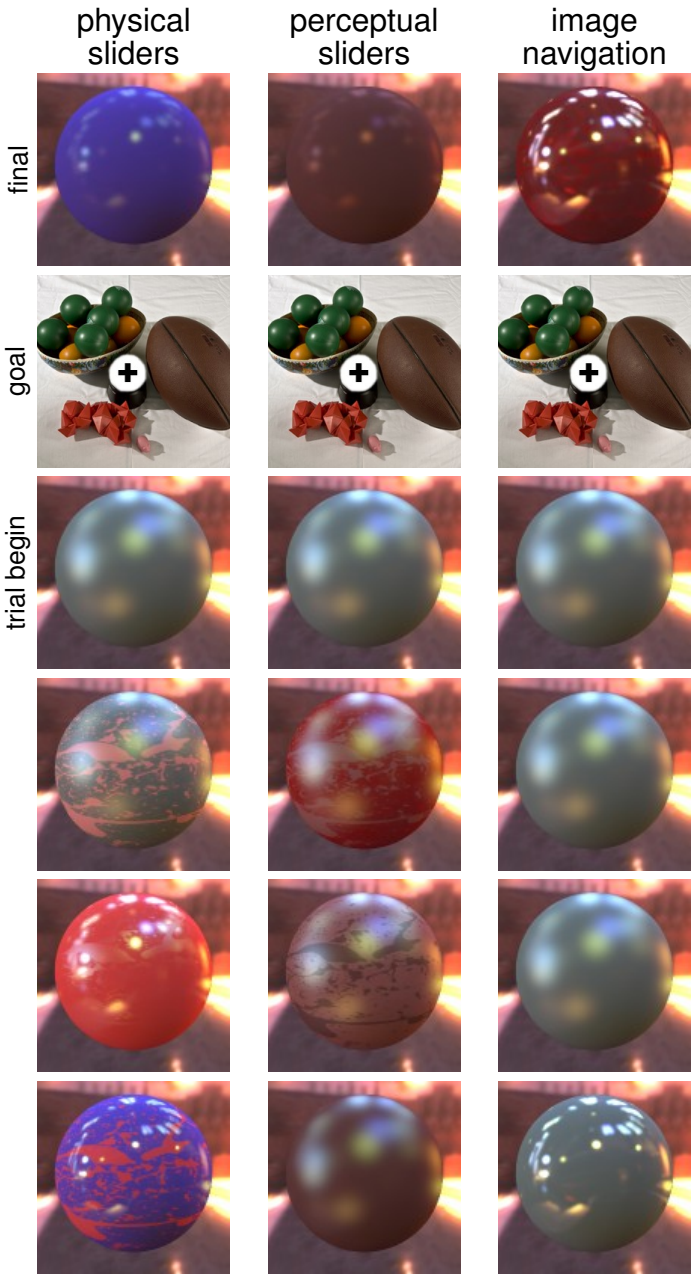
physical sliders

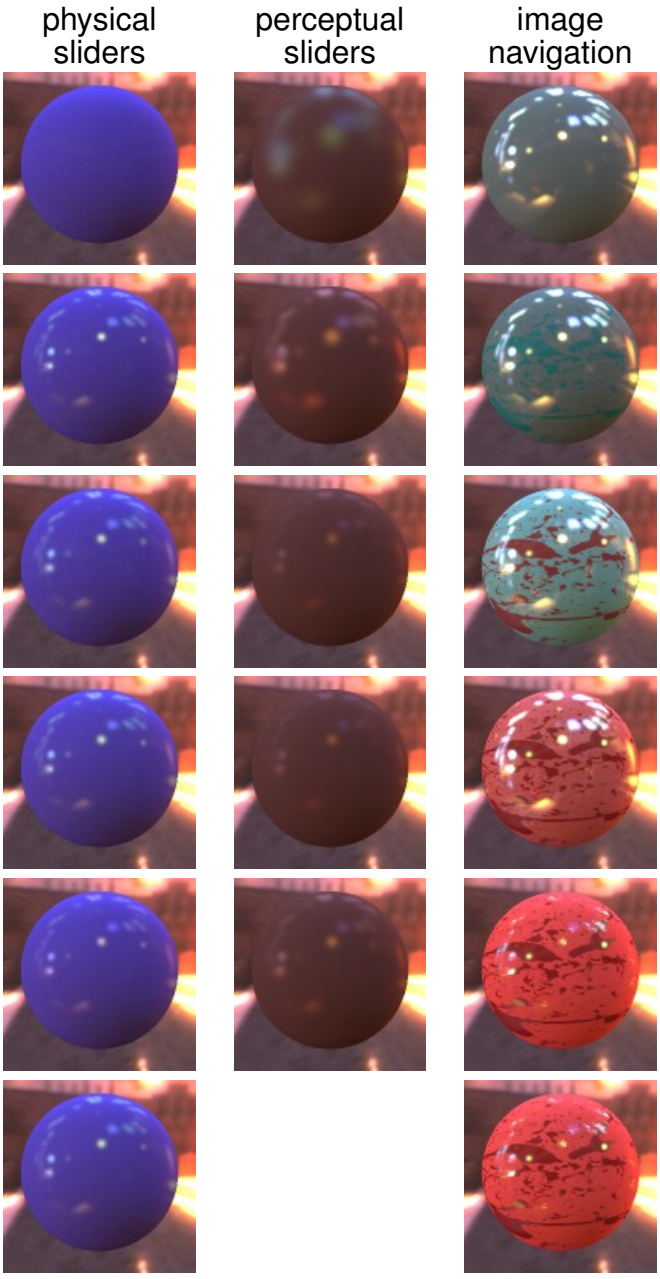
perceptual sliders

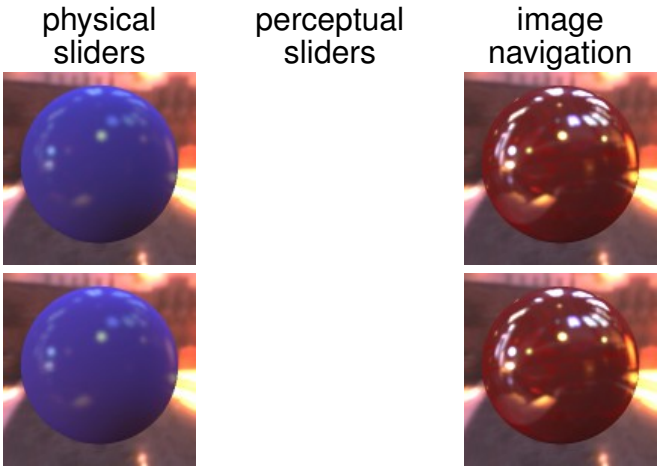
image navigation



Trial 9

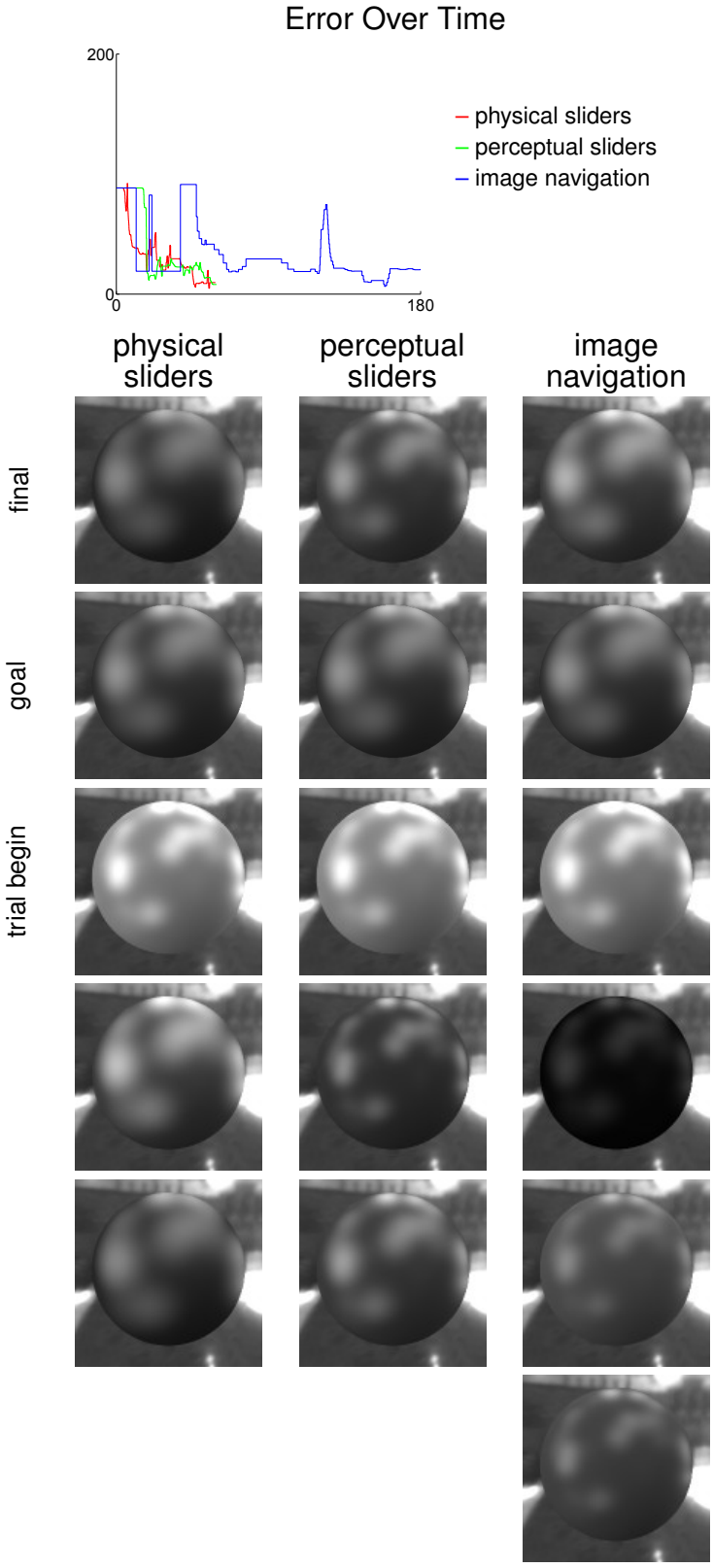

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

Subject 7

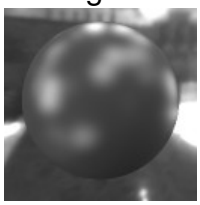
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

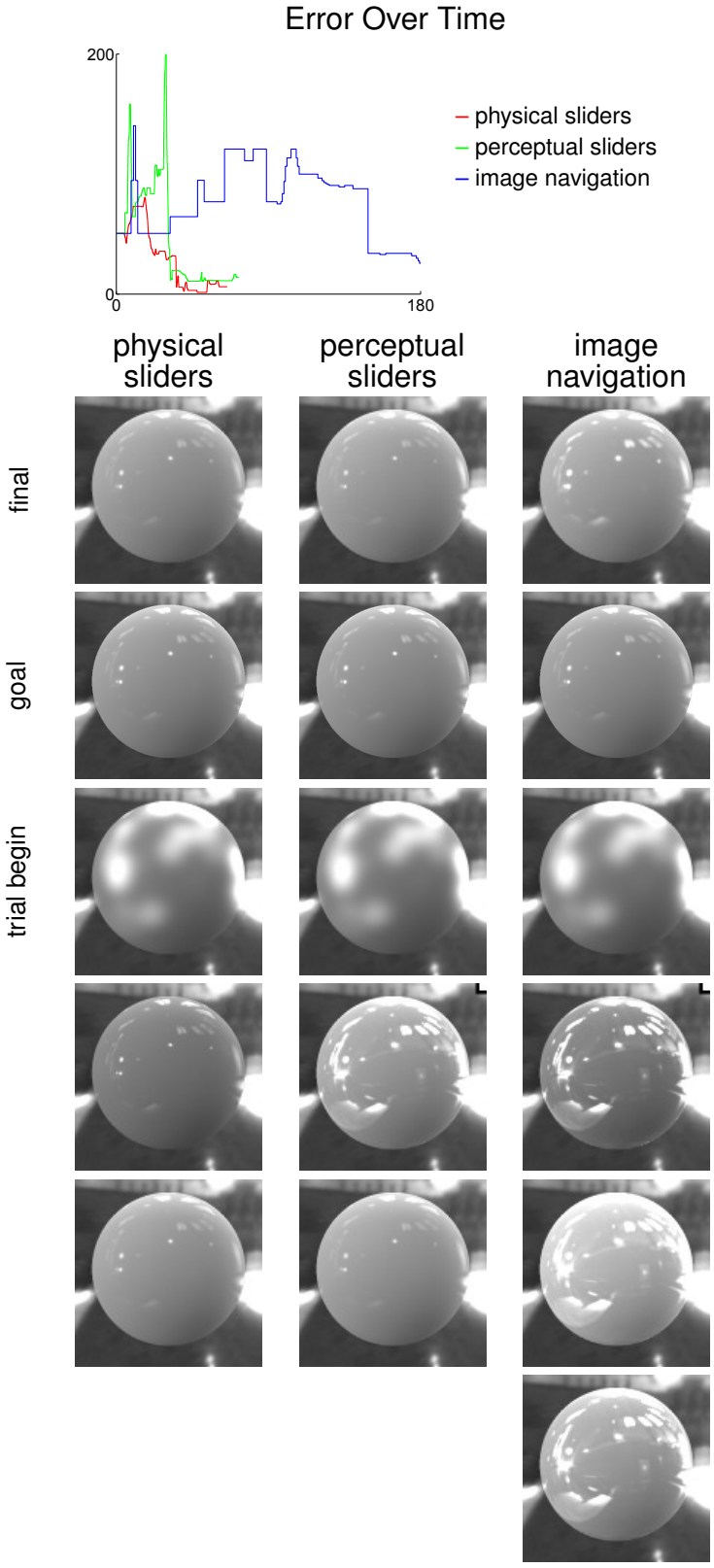
physical sliders

perceptual sliders

image navigation



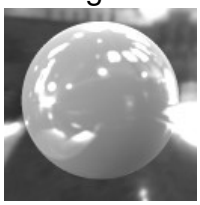
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

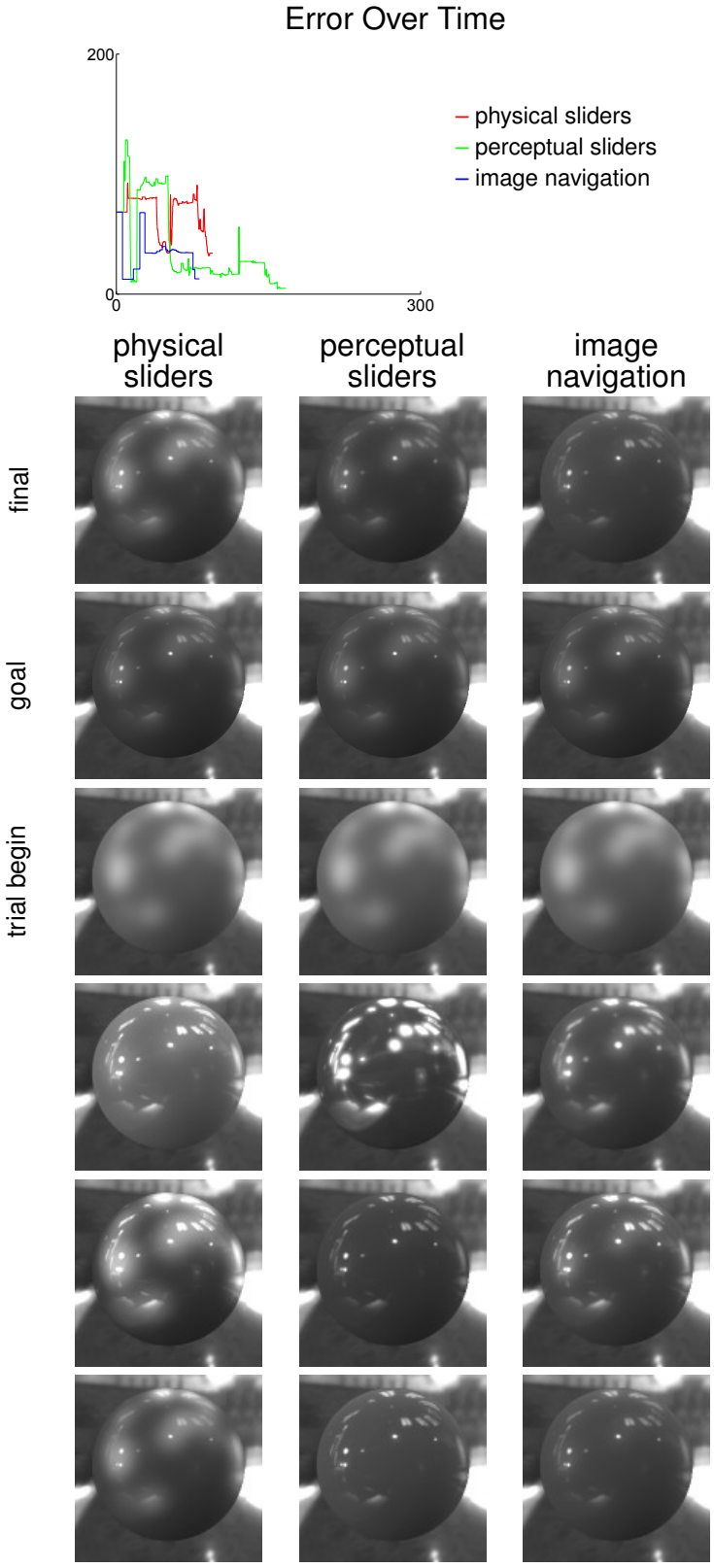
physical sliders

perceptual sliders

image navigation



Trial 3

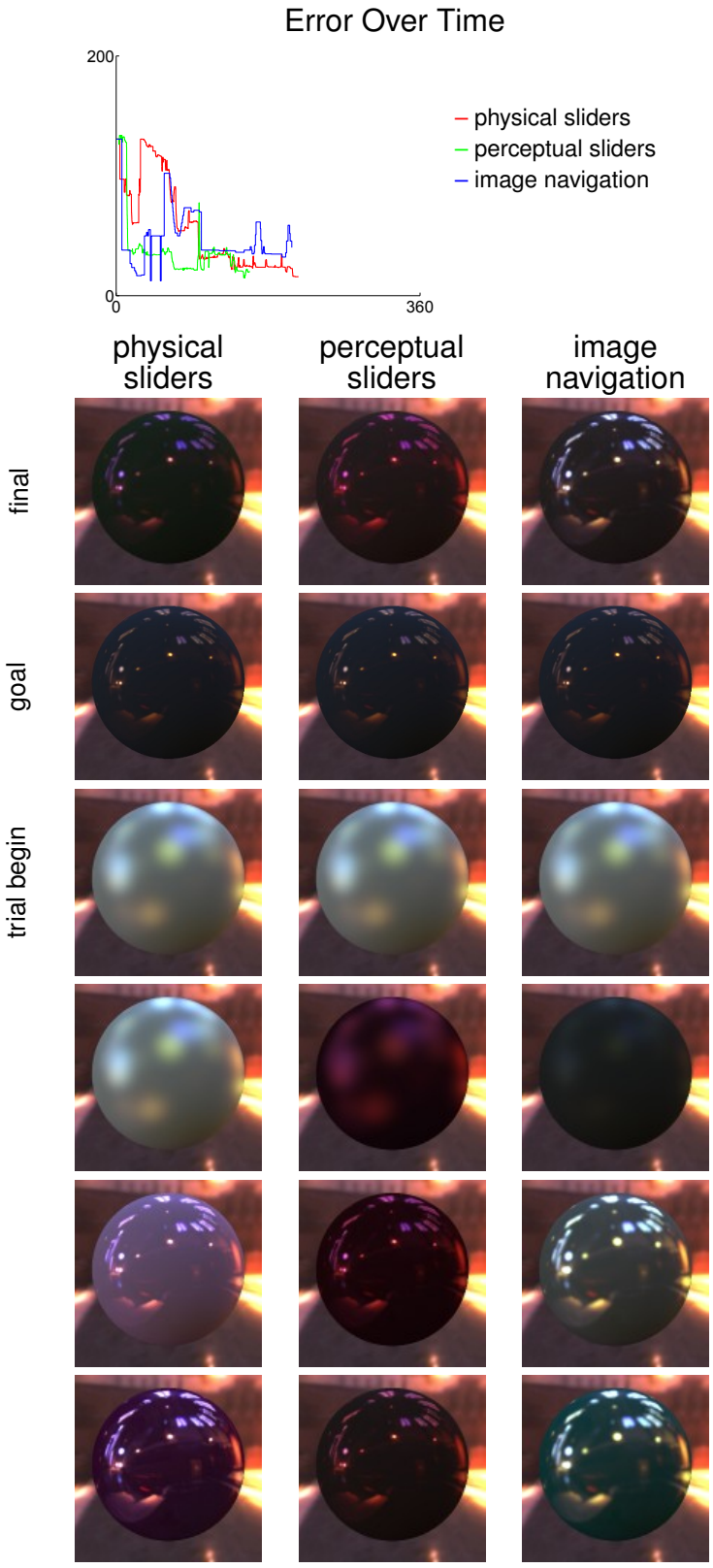

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

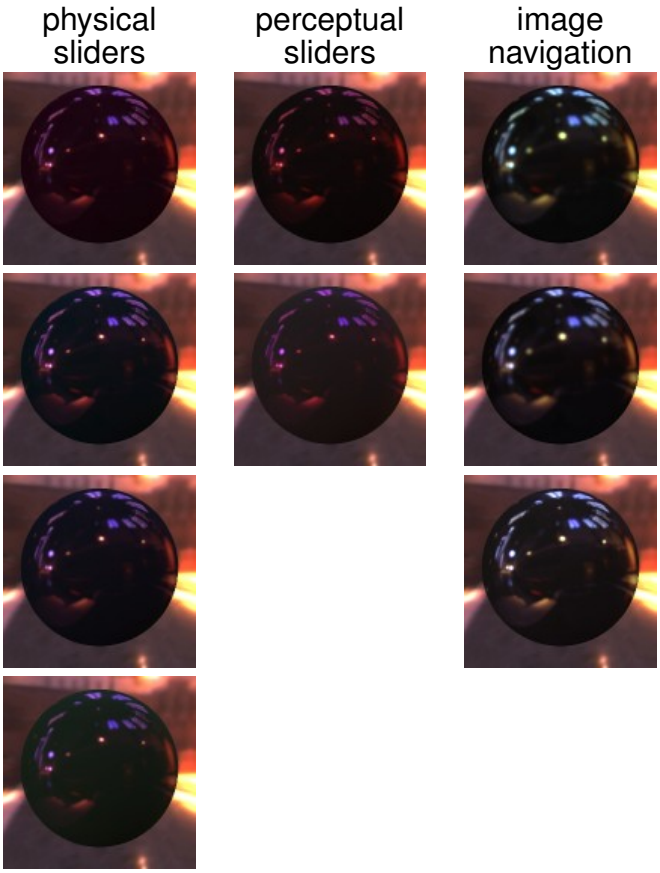
physical sliders

perceptual sliders

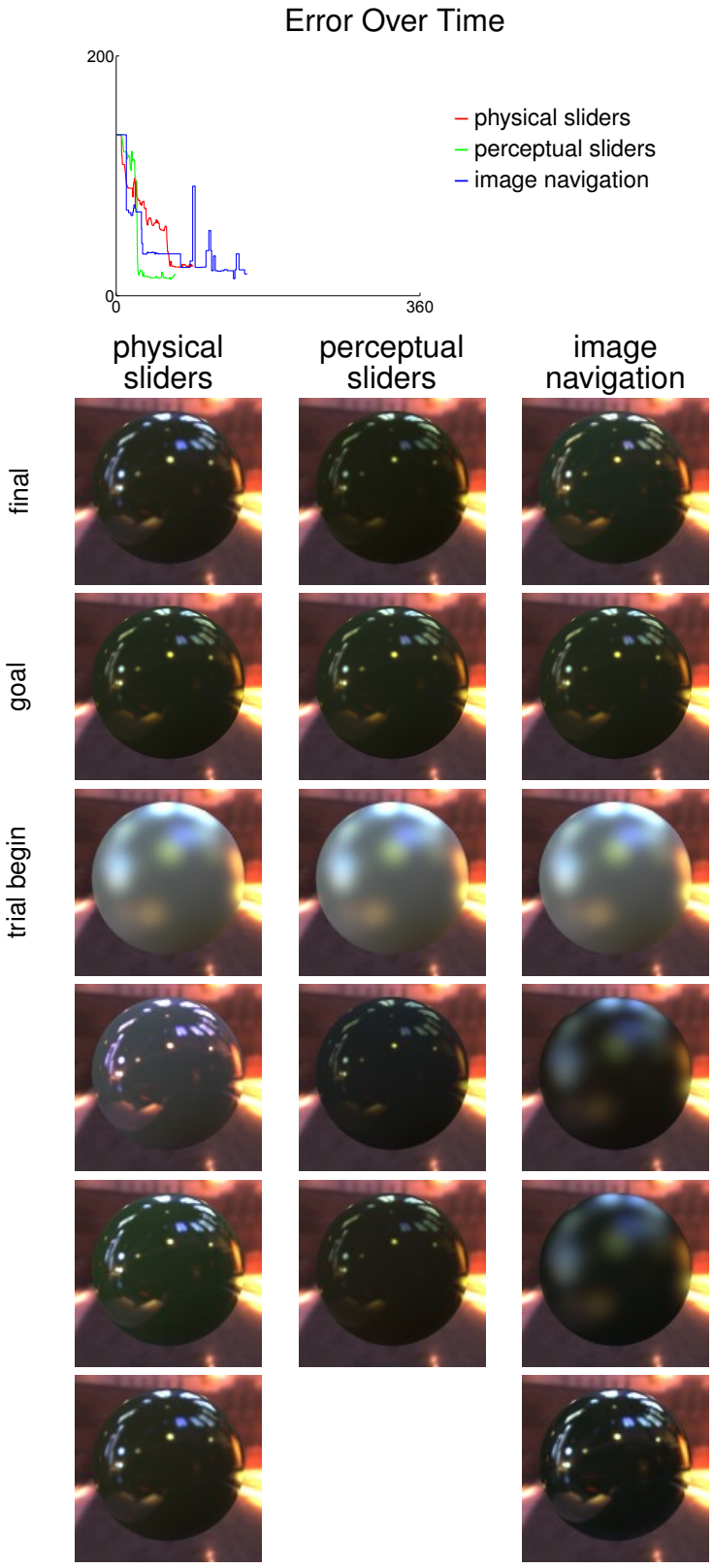
image navigation

Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 5

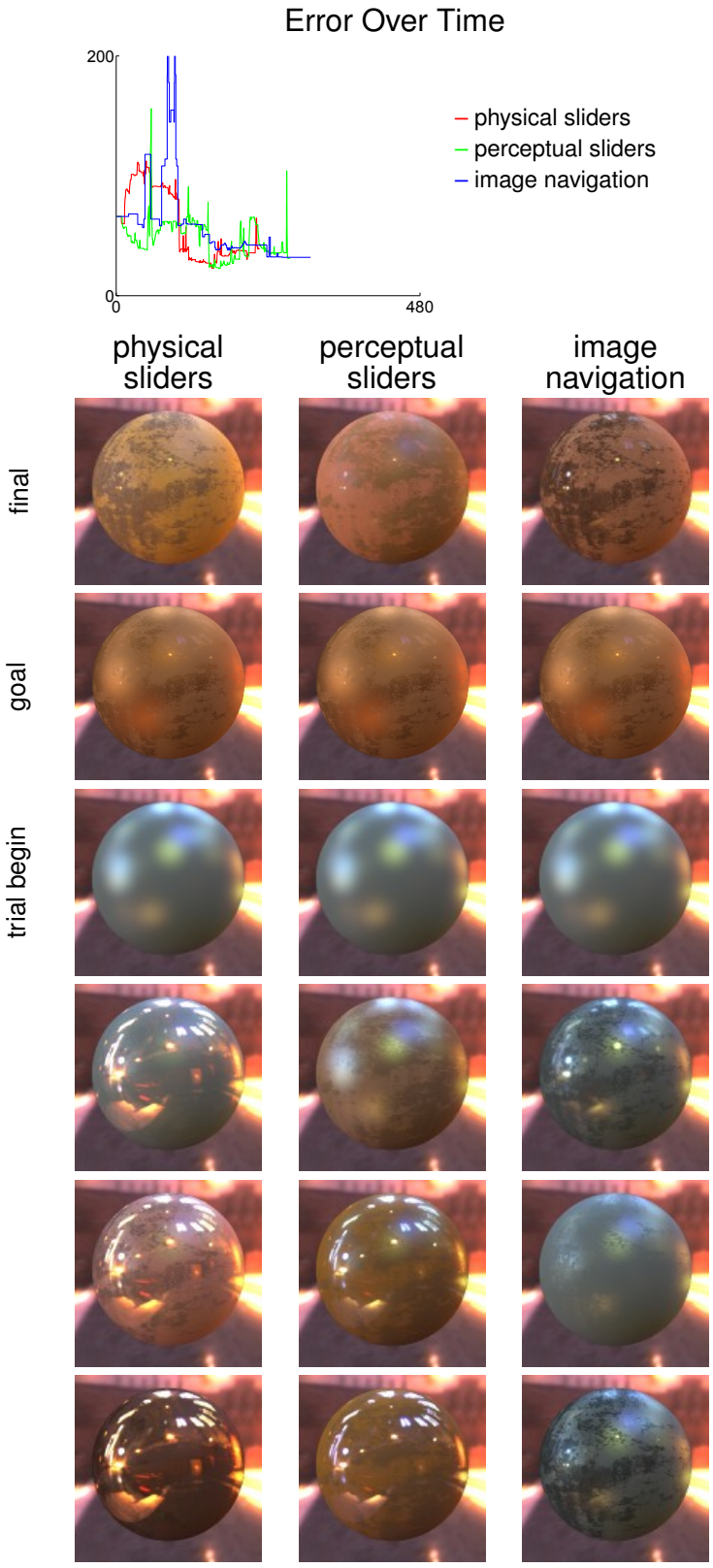

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

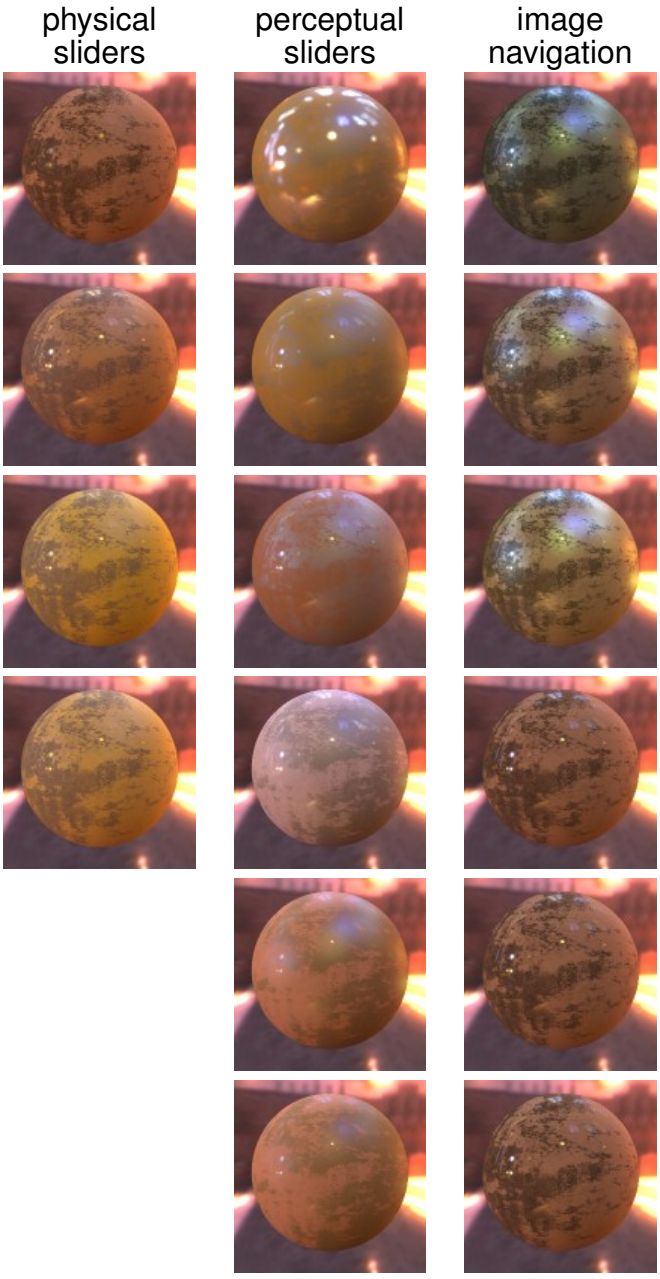
physical sliders

perceptual sliders

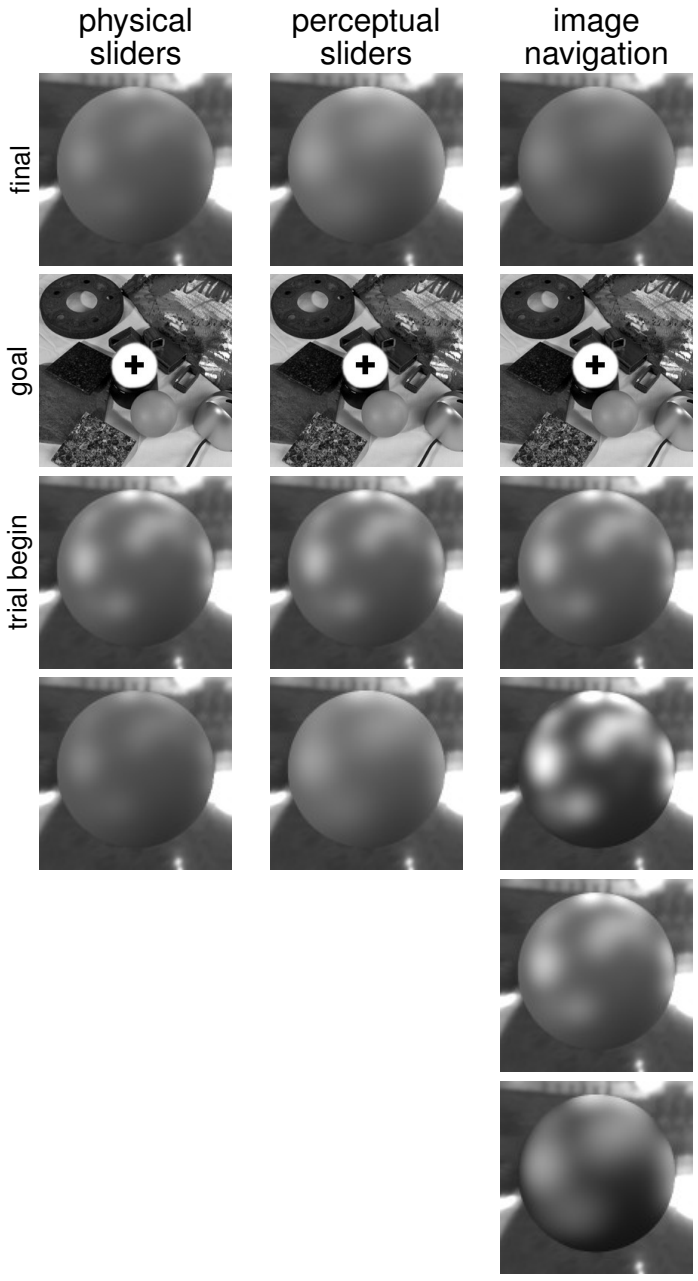
image navigation

Trial 6

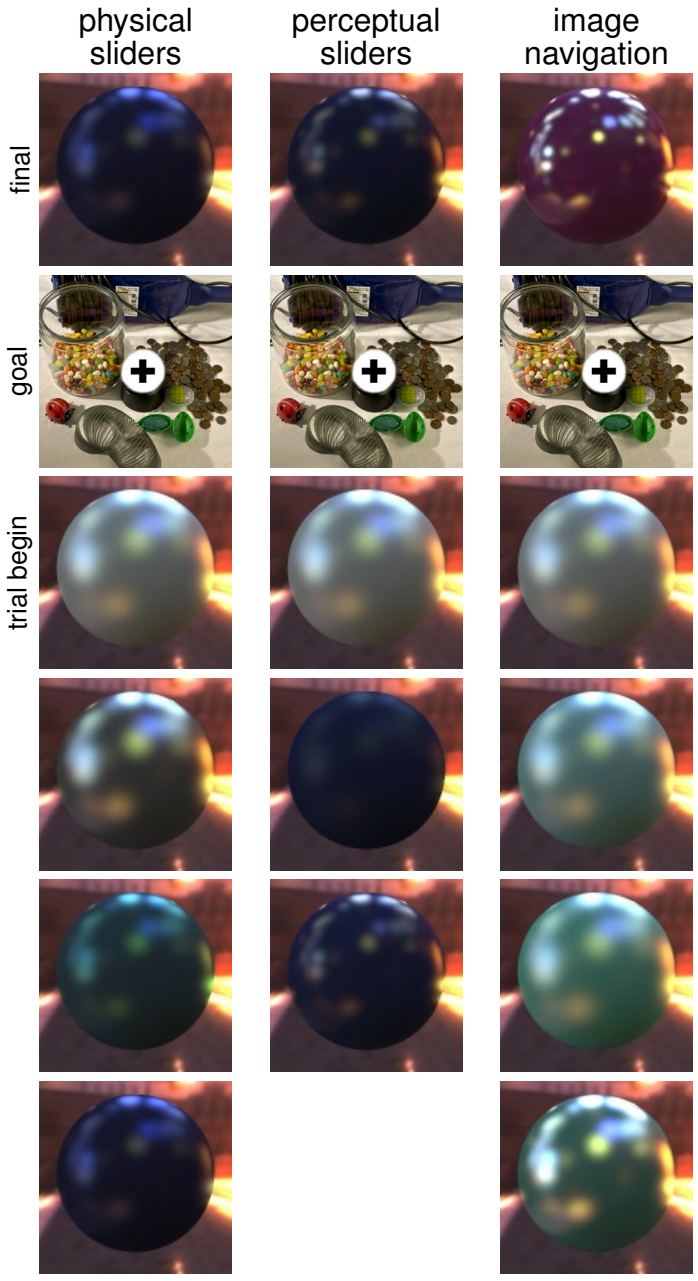

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

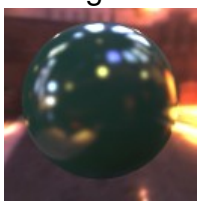
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

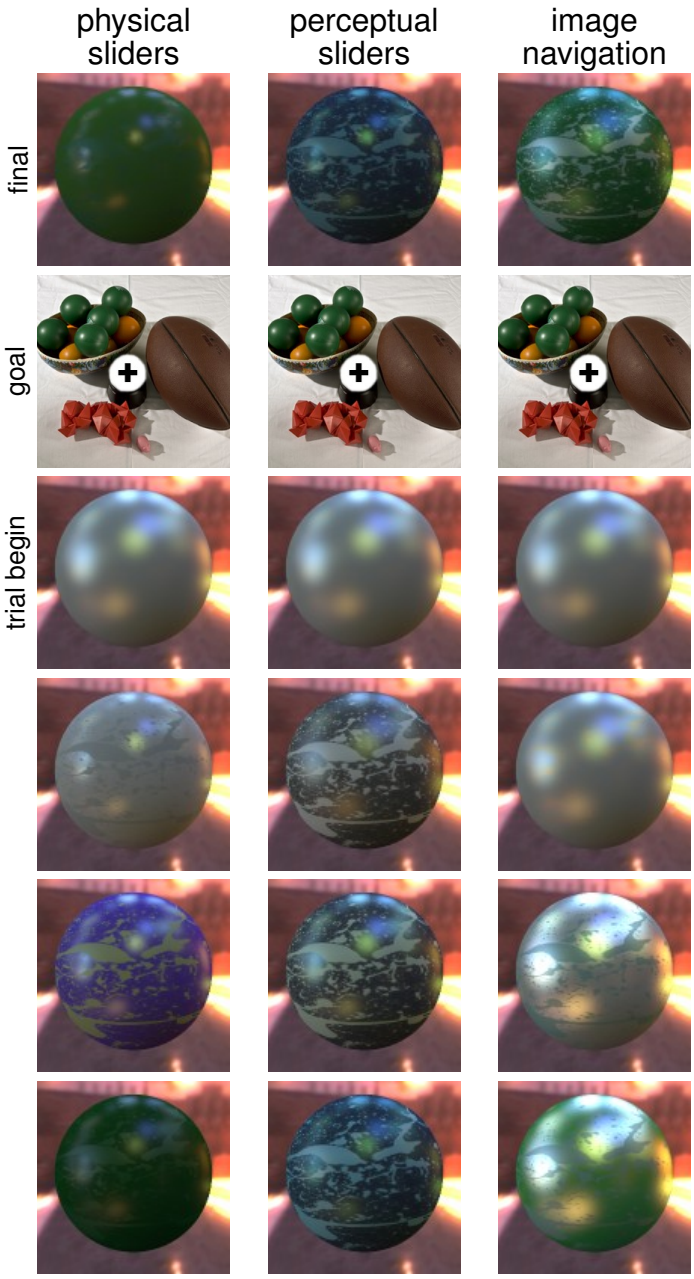
physical sliders

perceptual sliders

image navigation



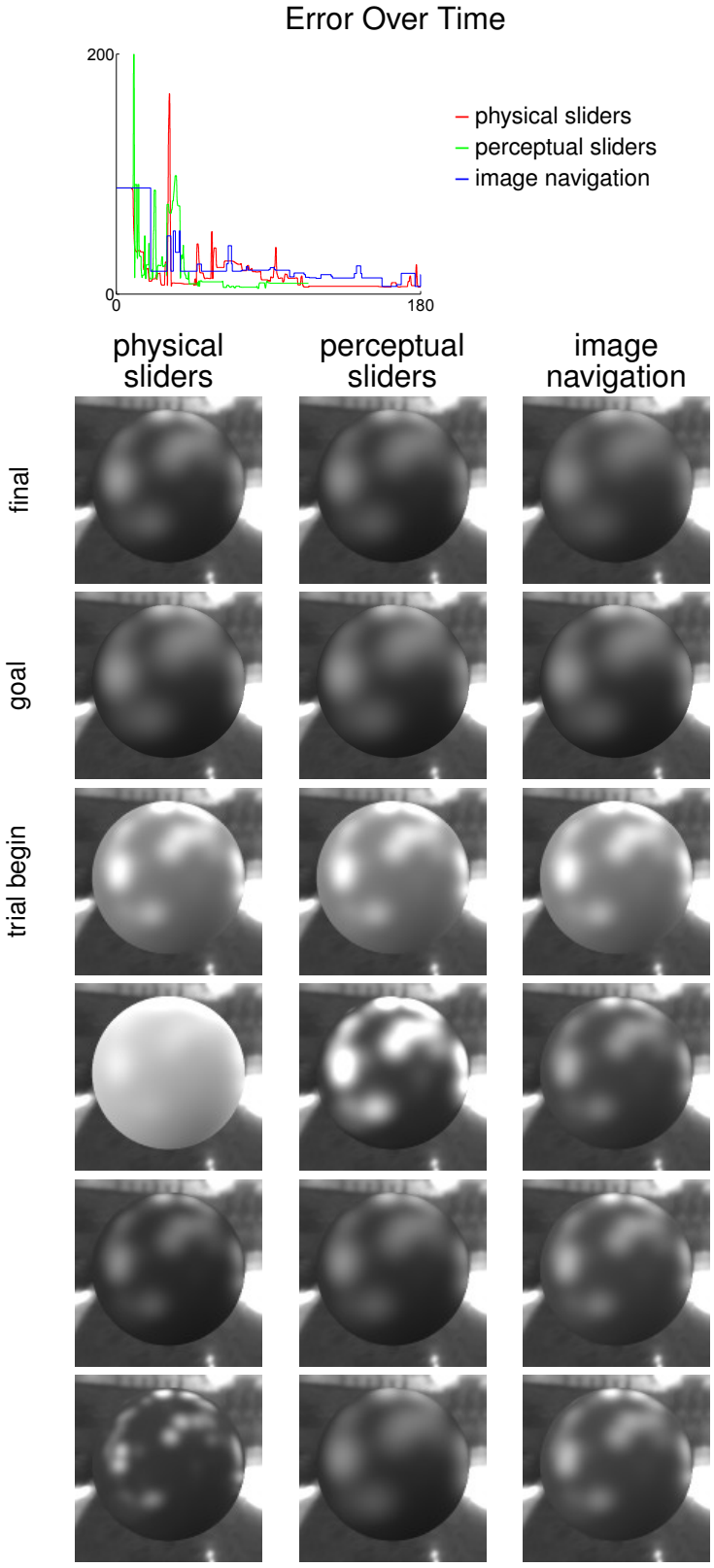
Trial 9

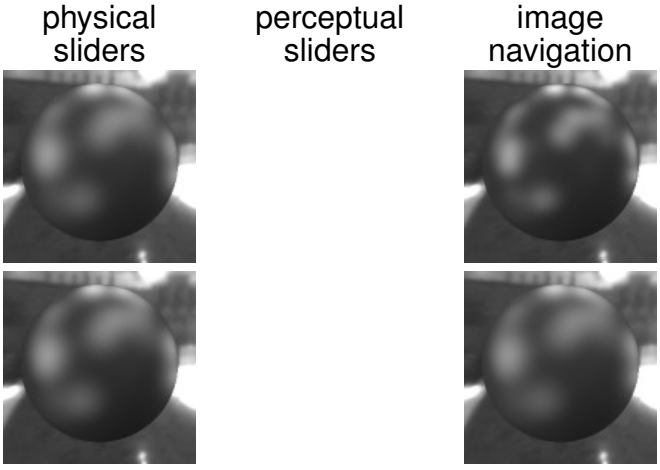

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders
perceptual sliders
image navigation

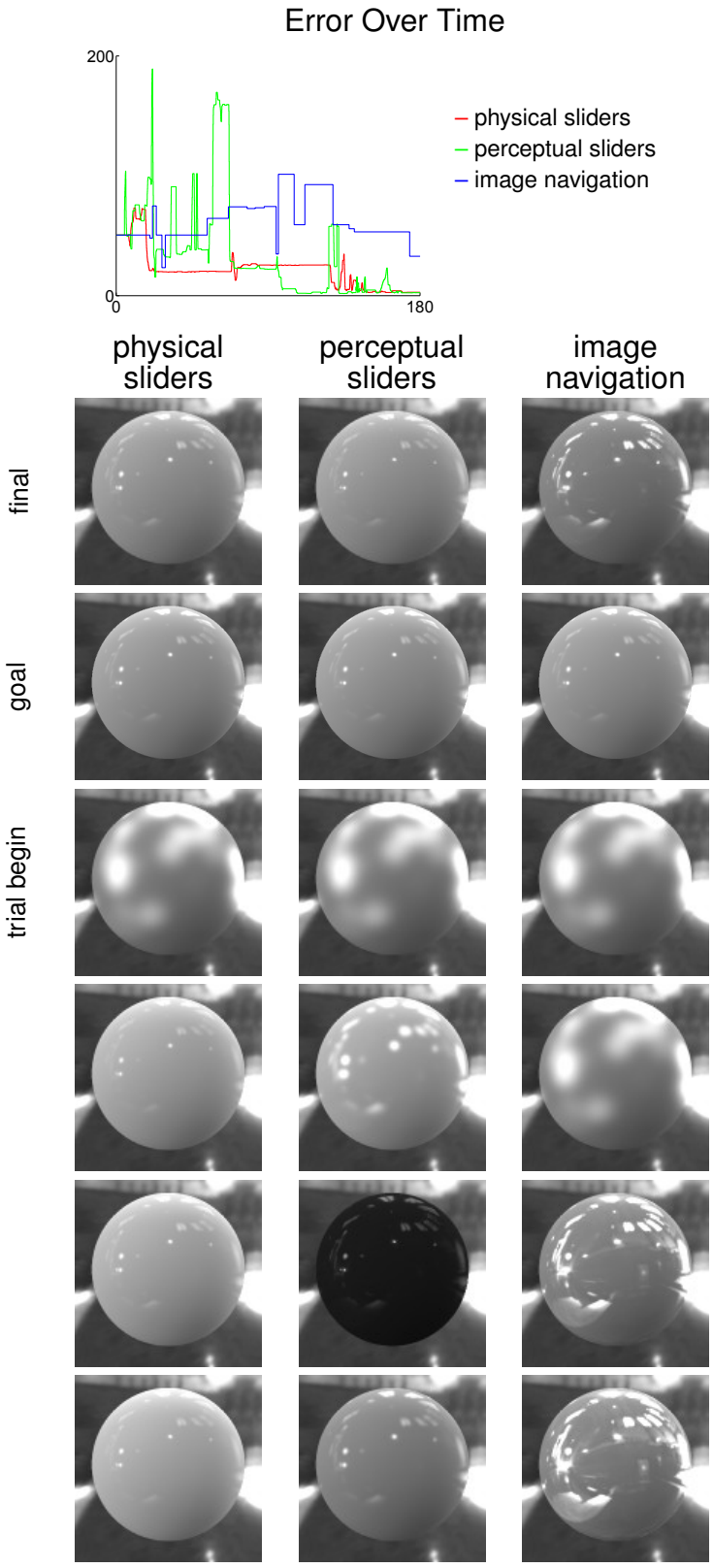
Subject 8

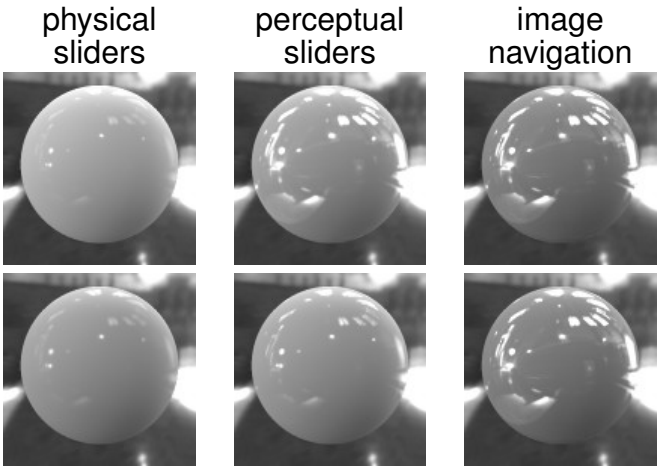
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

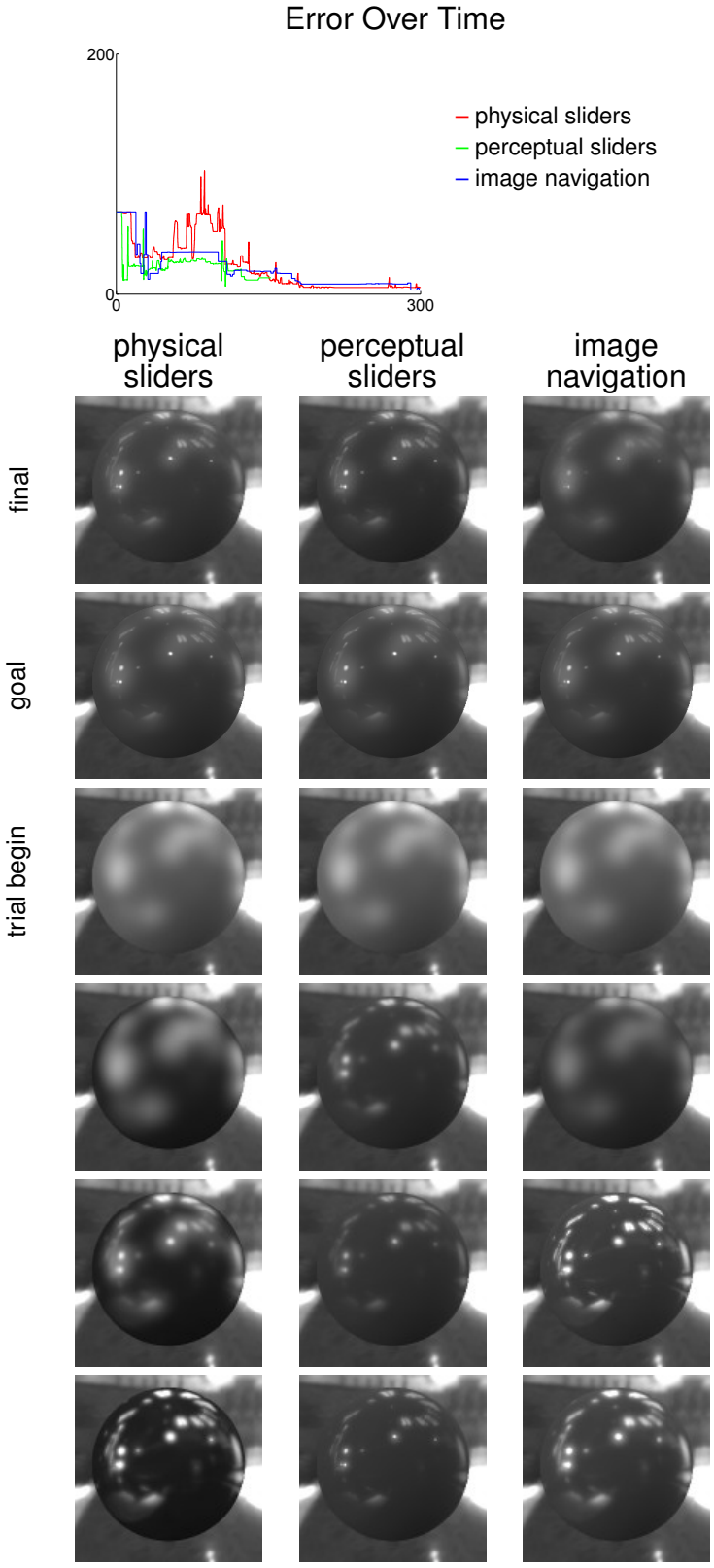

physical
sliders
perceptual
sliders
image
navigation

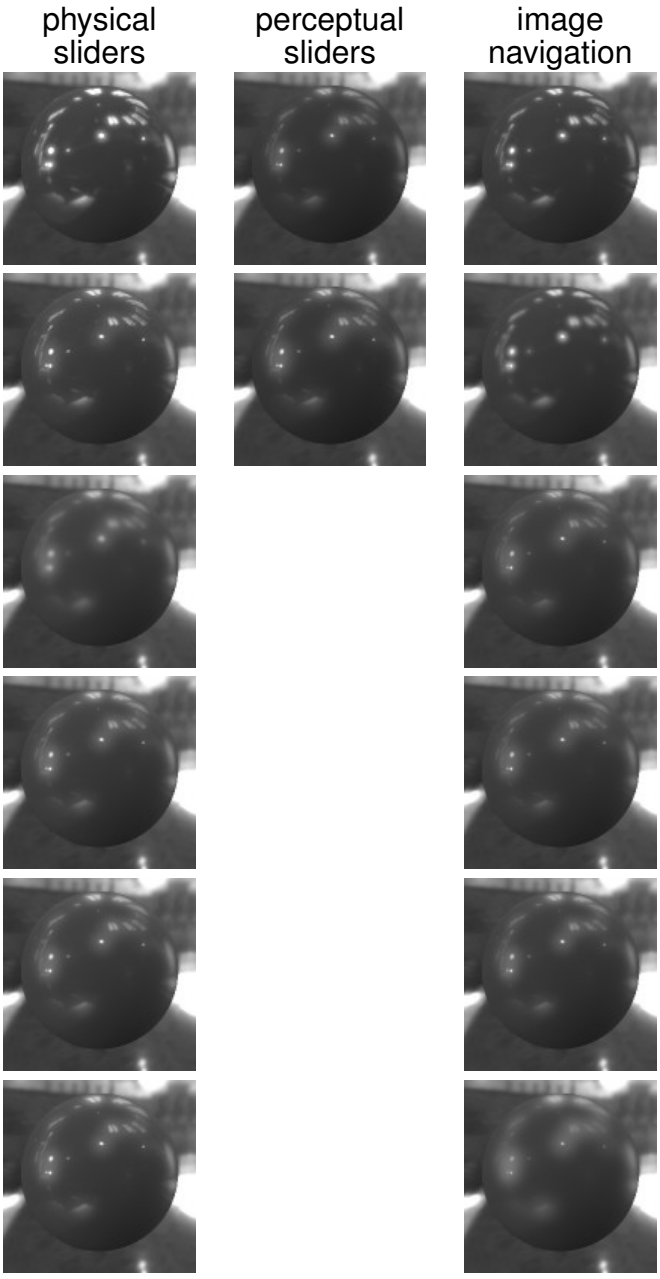
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

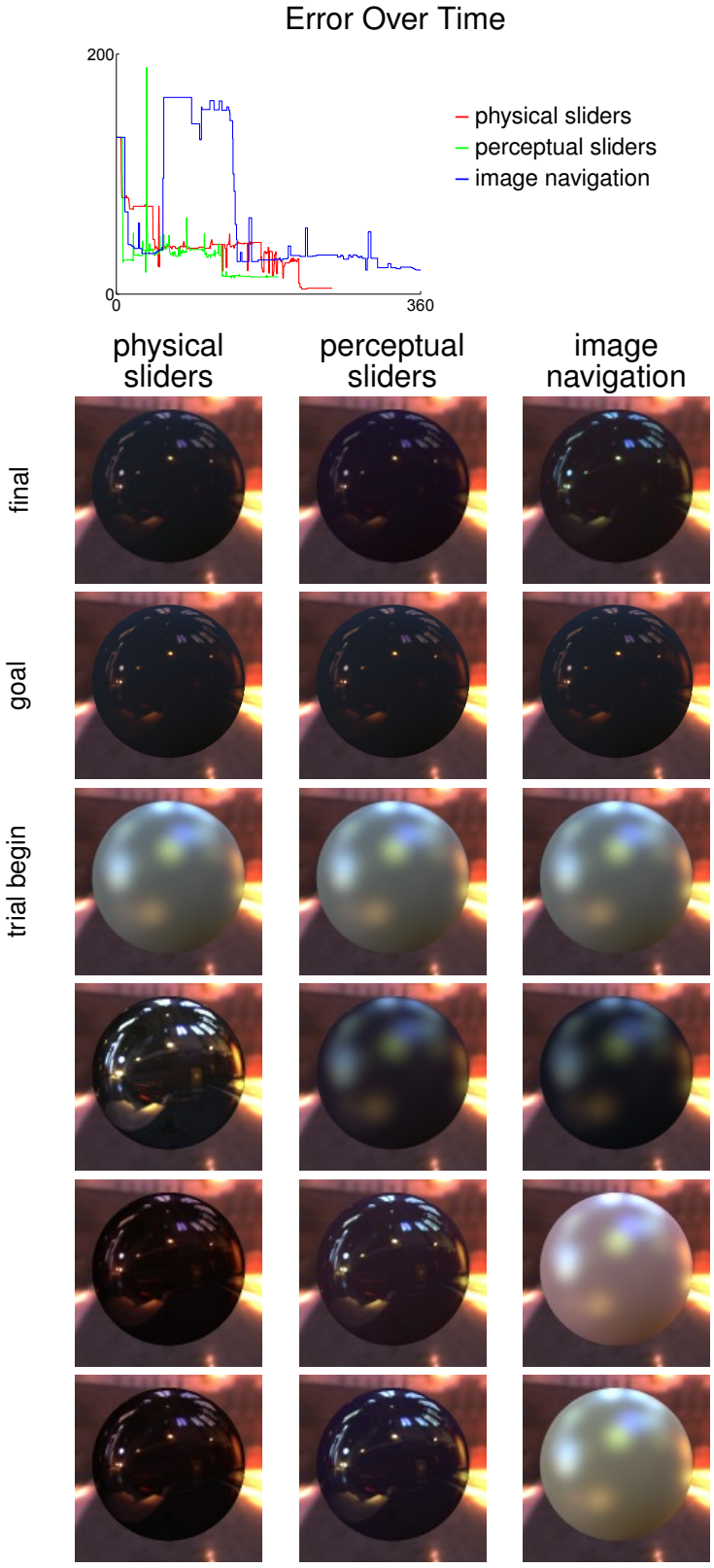

physical sliders
perceptual sliders
image navigation

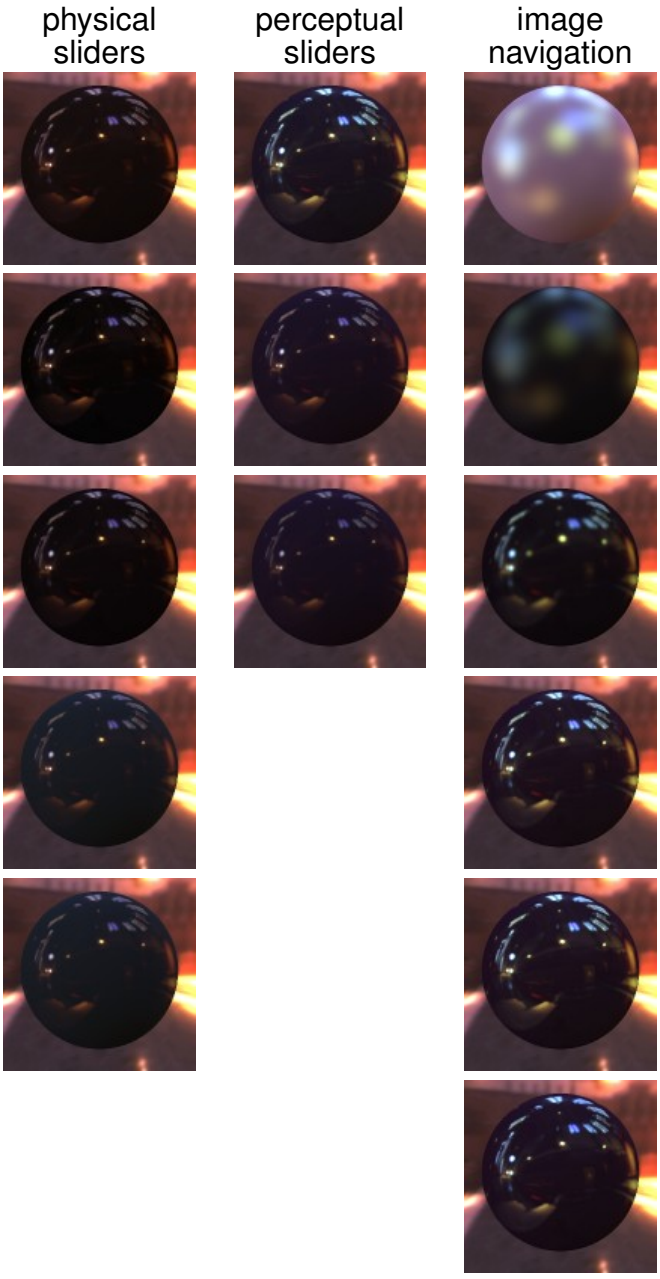
Trial 3

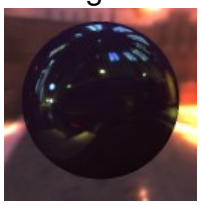
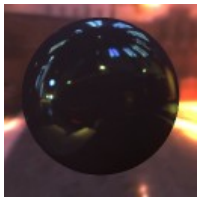

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

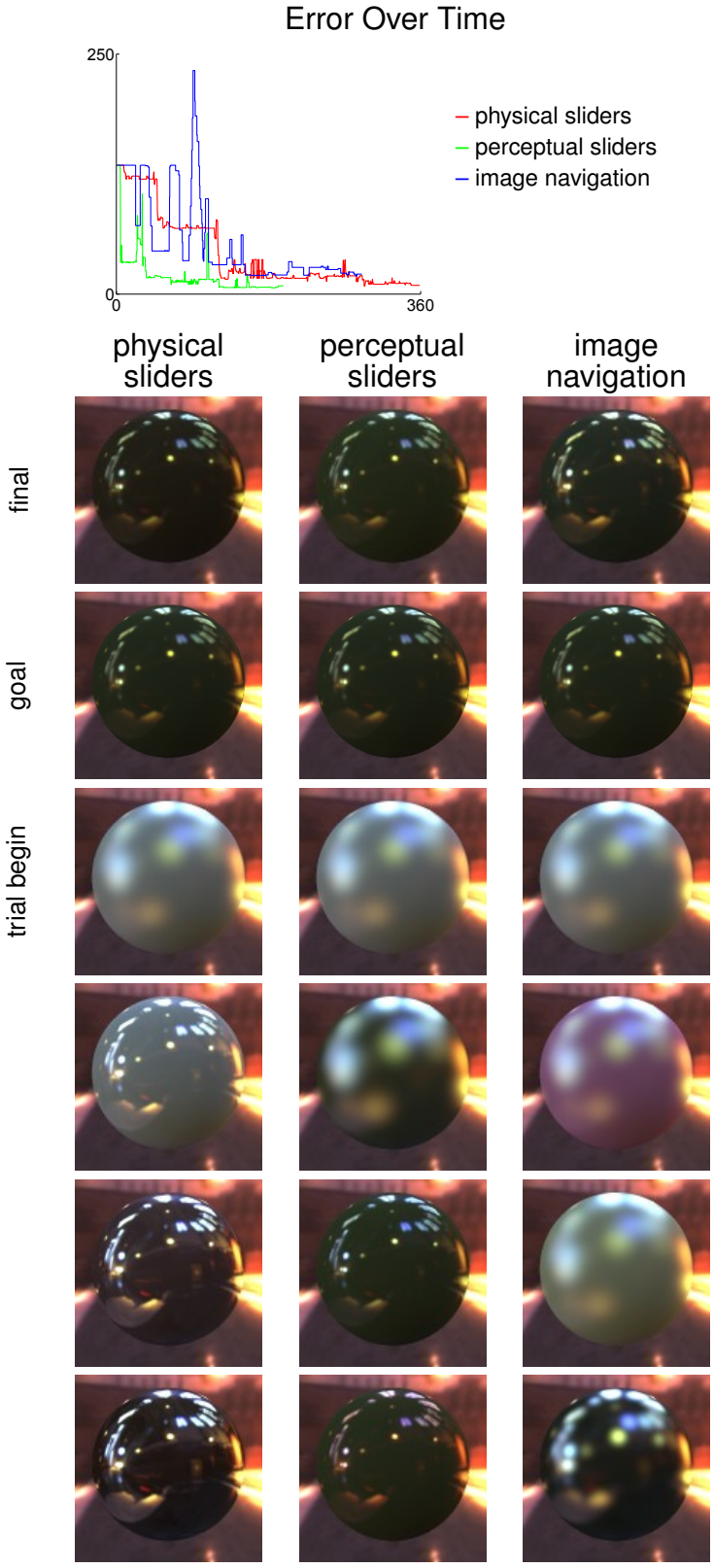
Trial 4

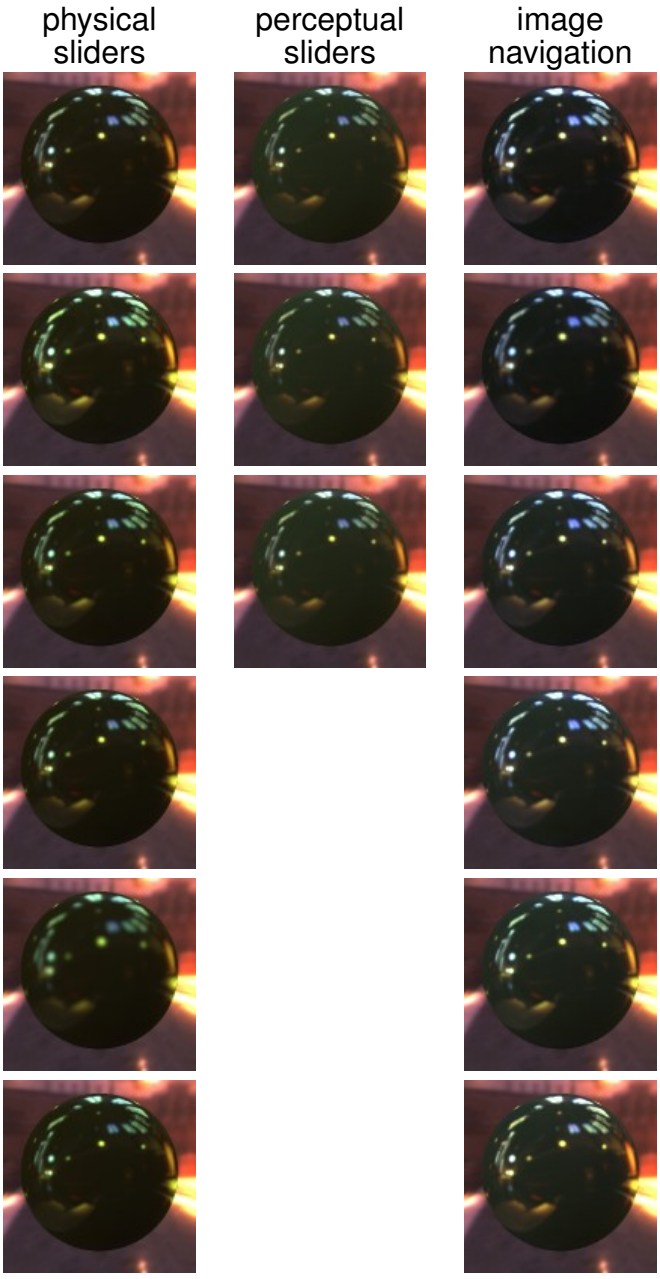

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

physical sliders	perceptual sliders	image navigation
		
		

Trial 5

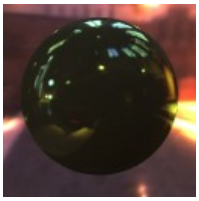

Error Over Time
250
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

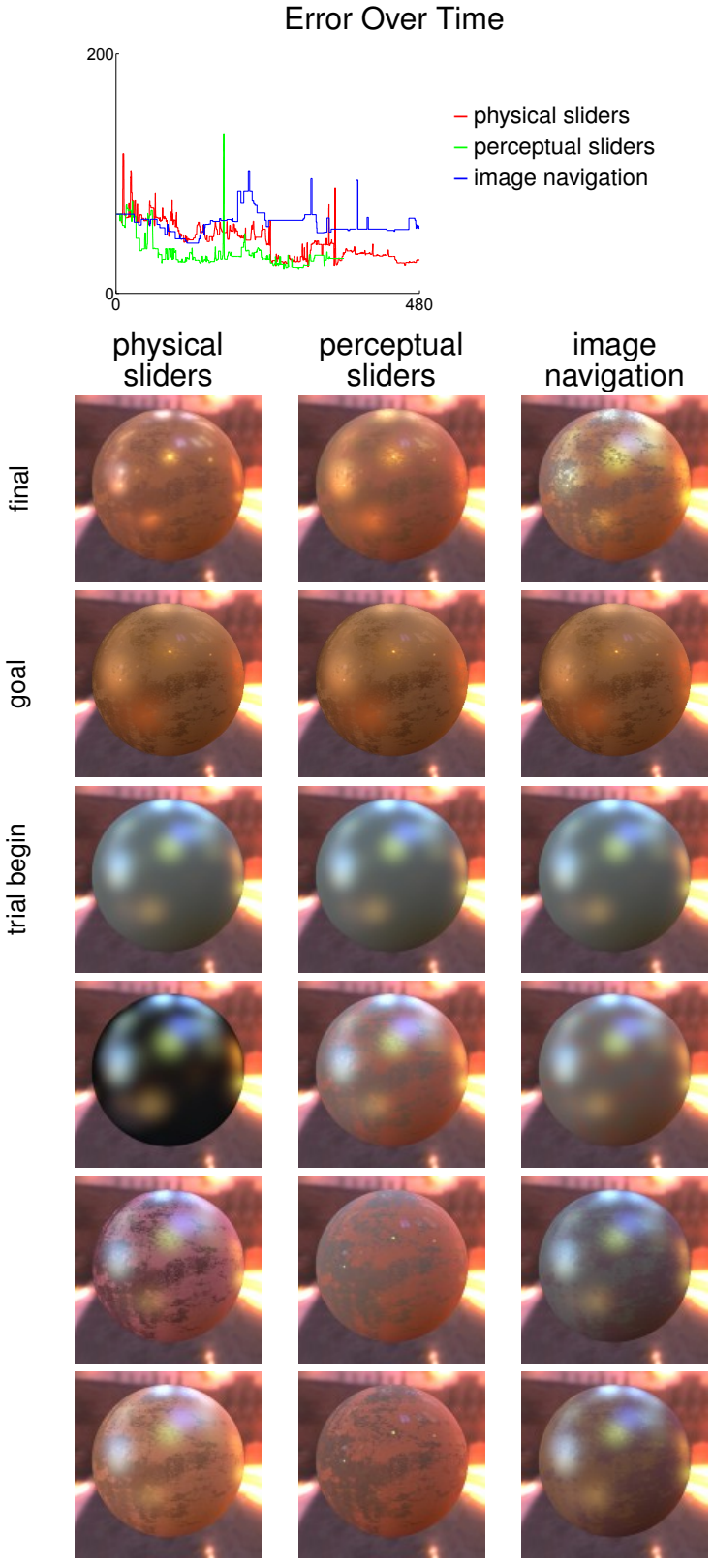
physical sliders

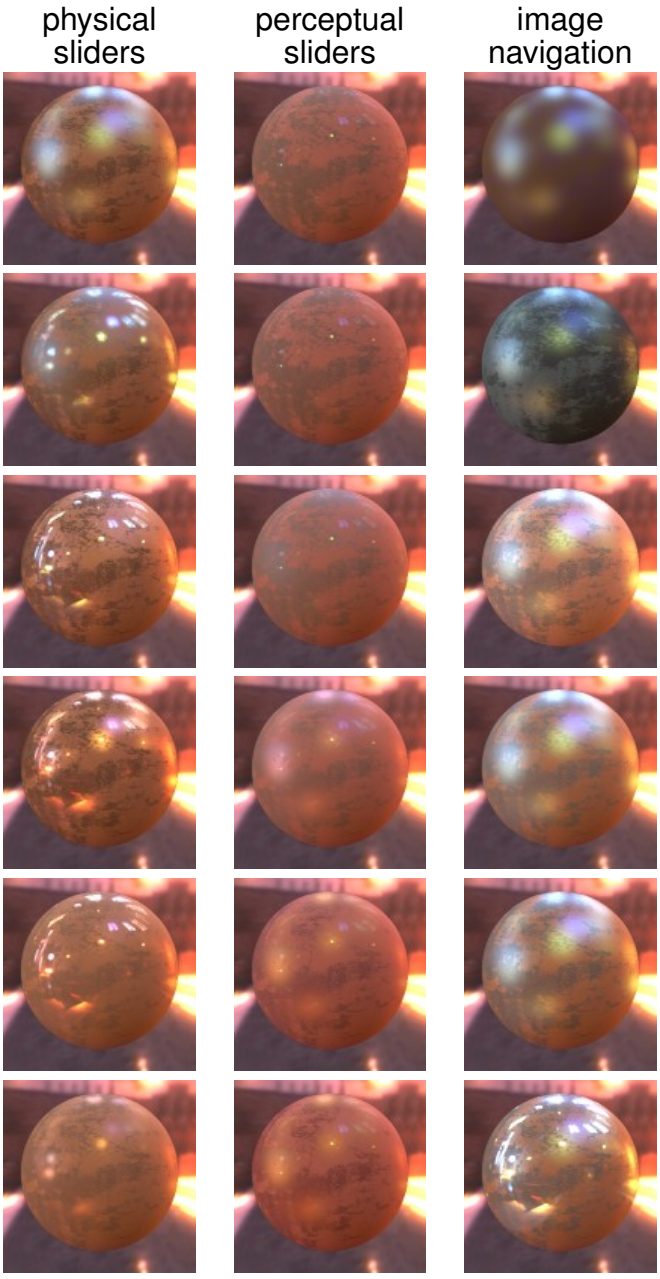
perceptual sliders

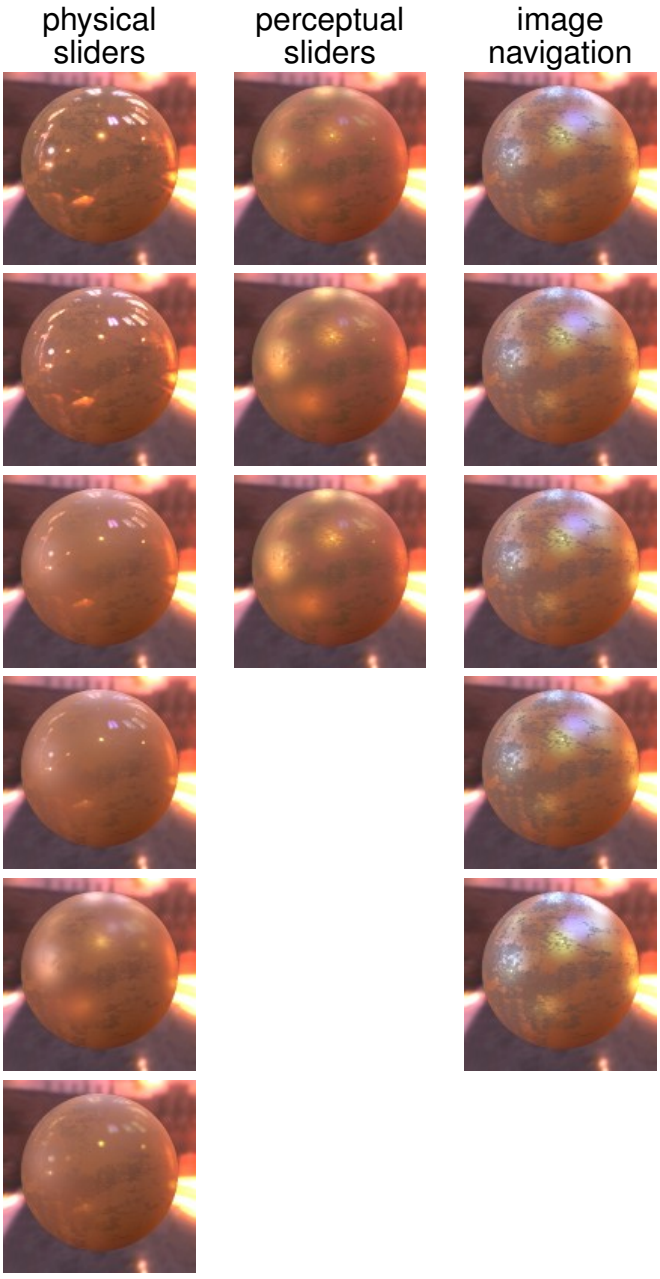
image navigation



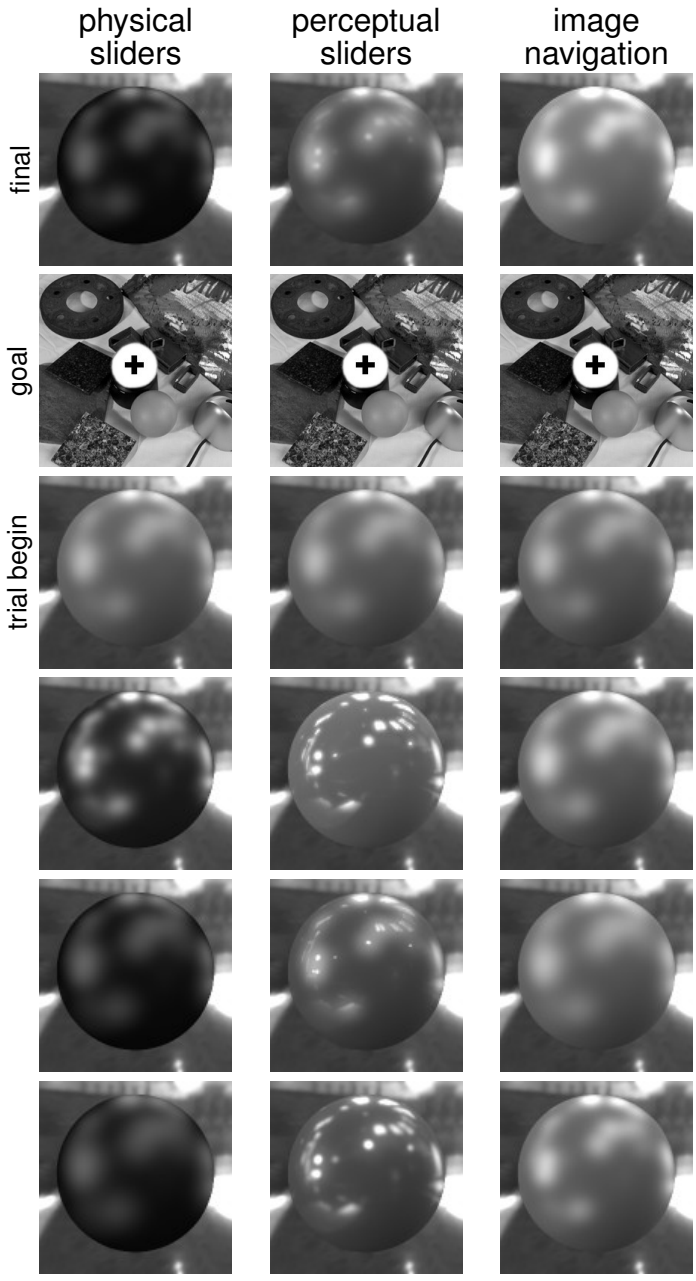
Trial 6

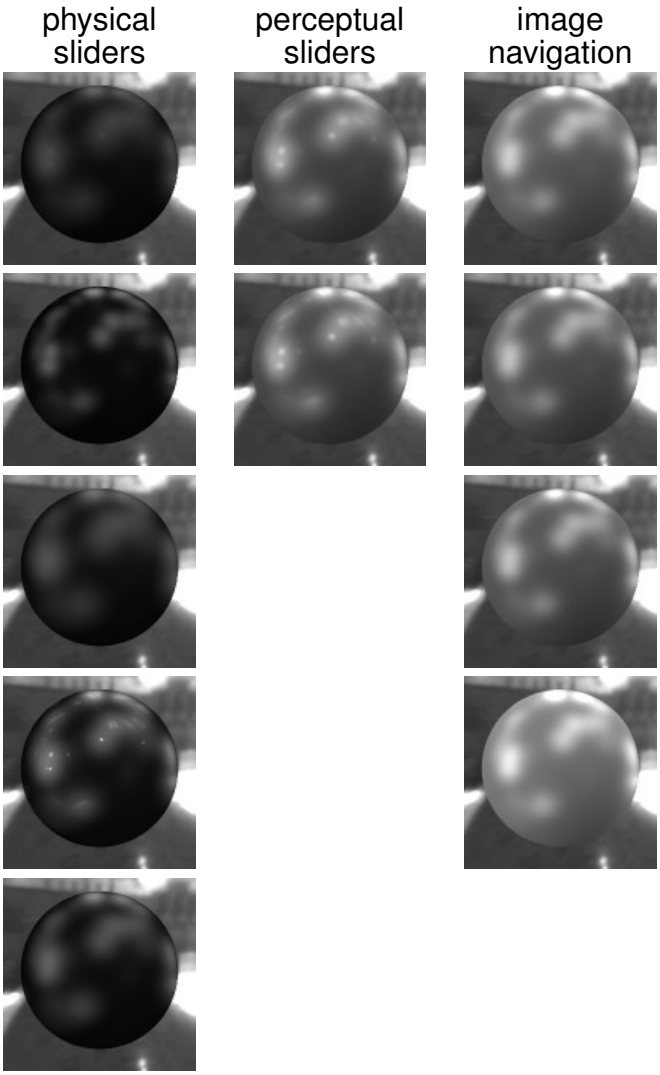

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

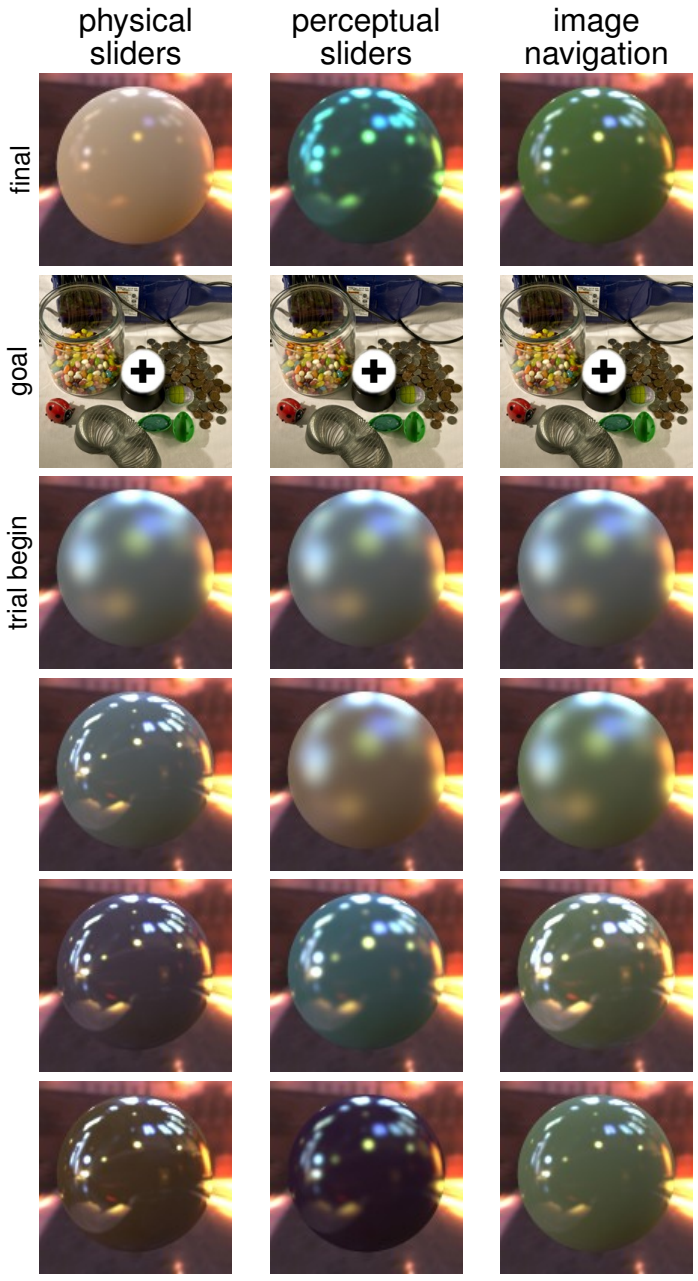

physical sliders
perceptual sliders
image navigation

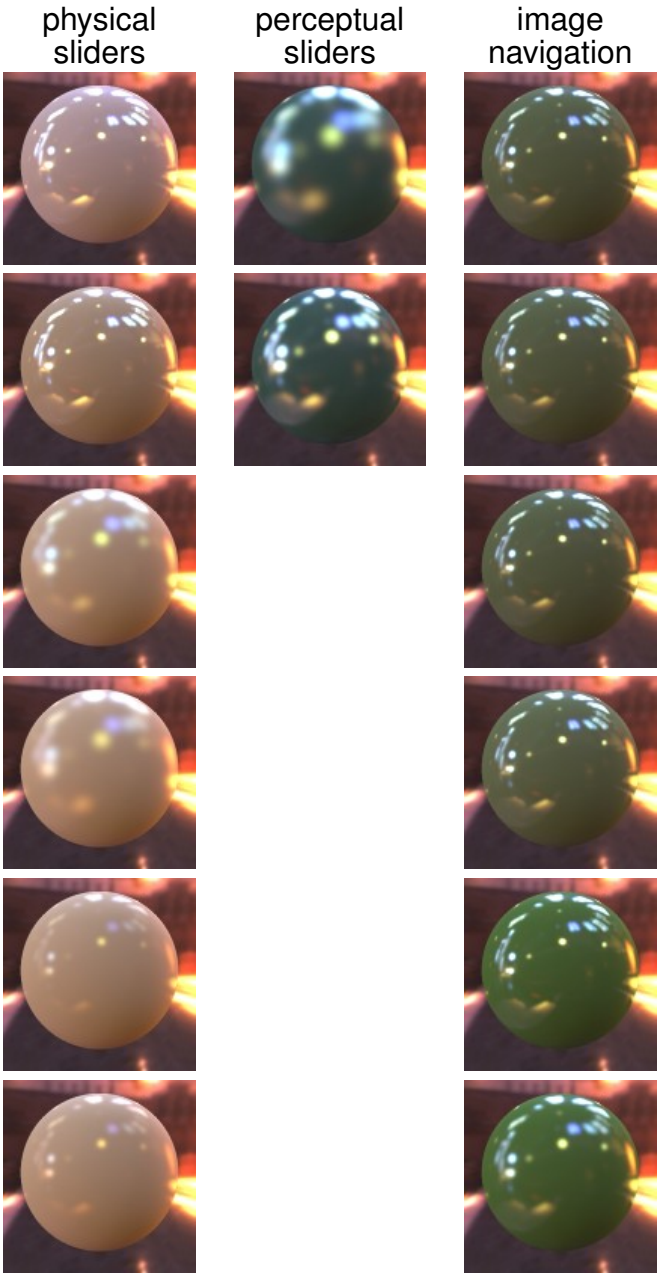
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

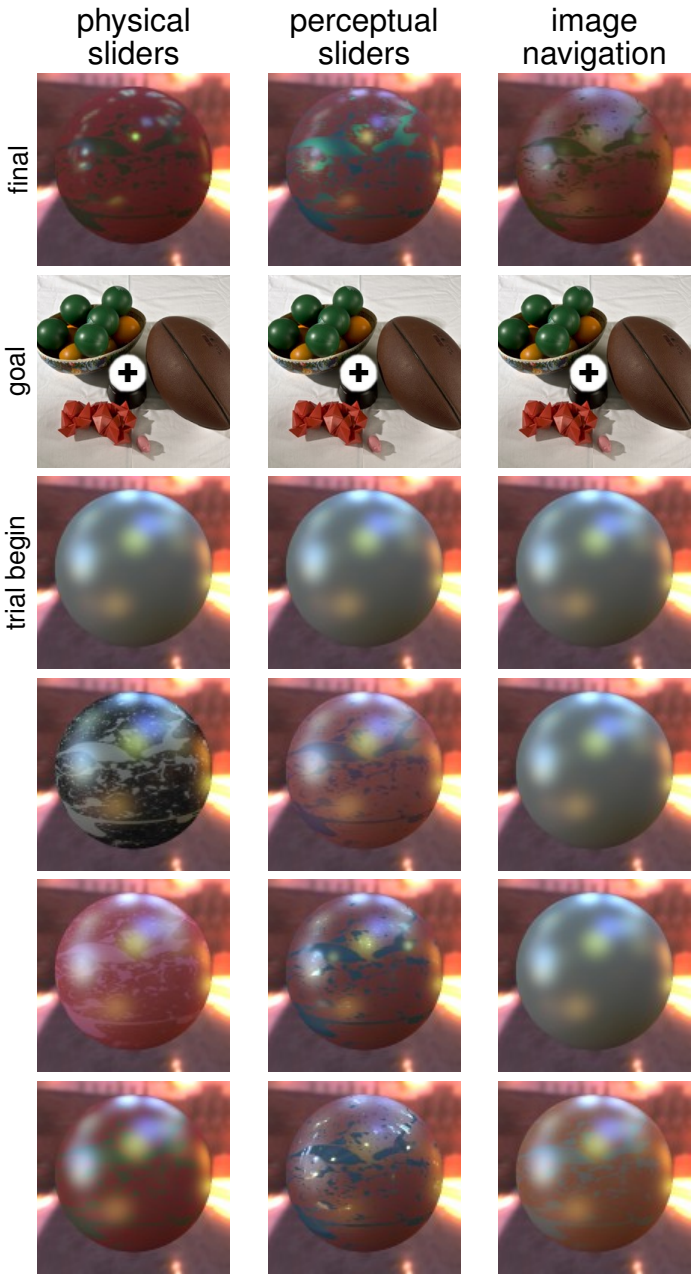

physical sliders
perceptual sliders
image navigation

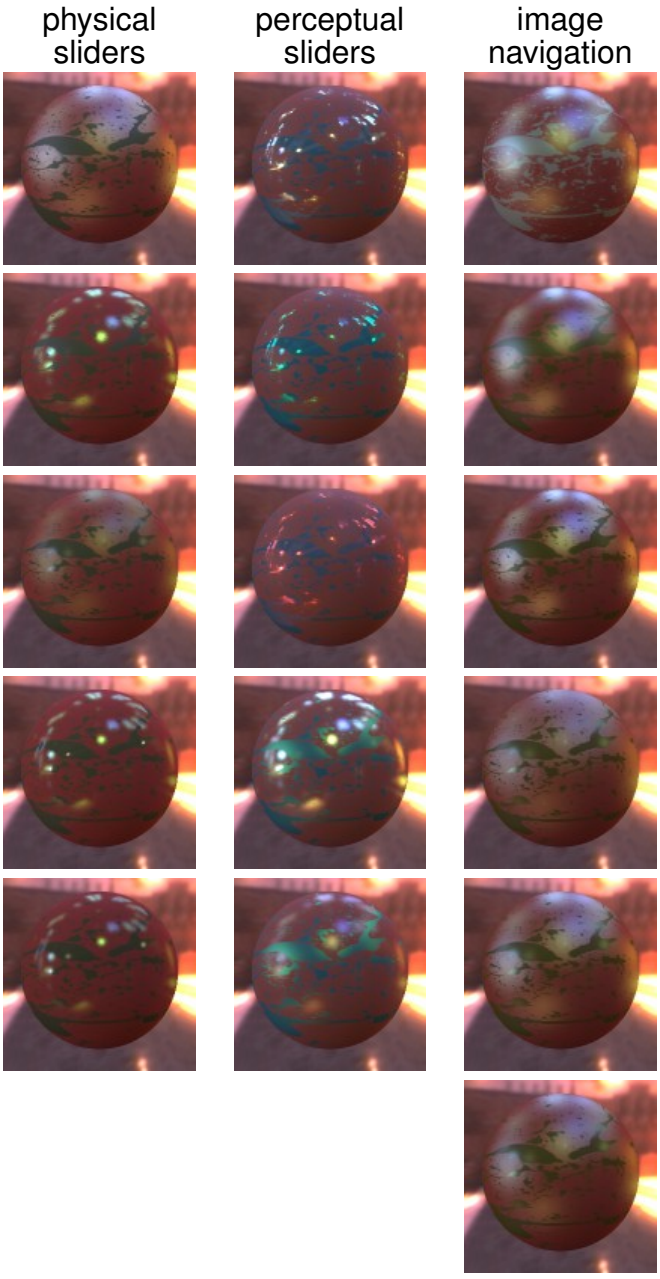
physical sliders

perceptual sliders

image navigation

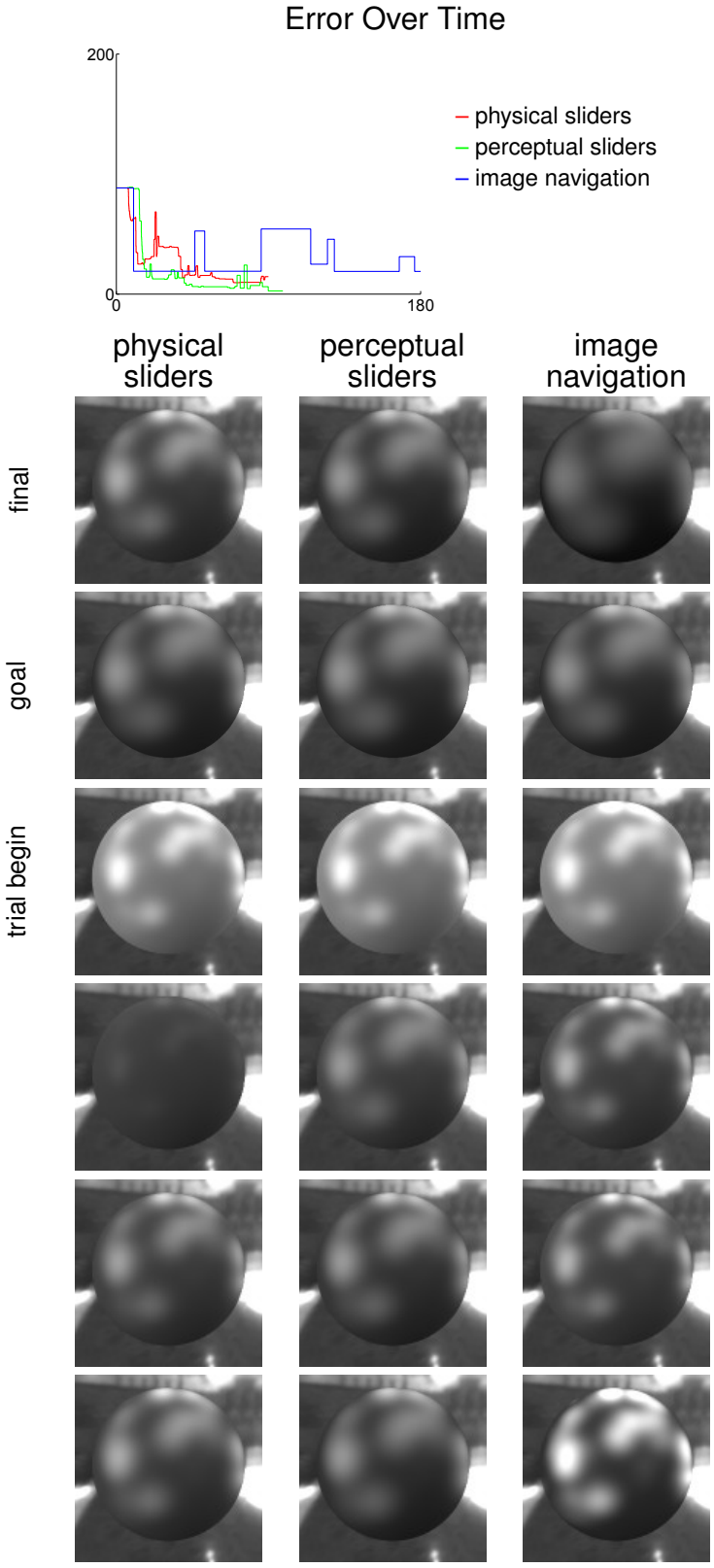
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Subject 9

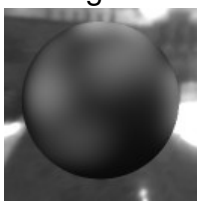
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

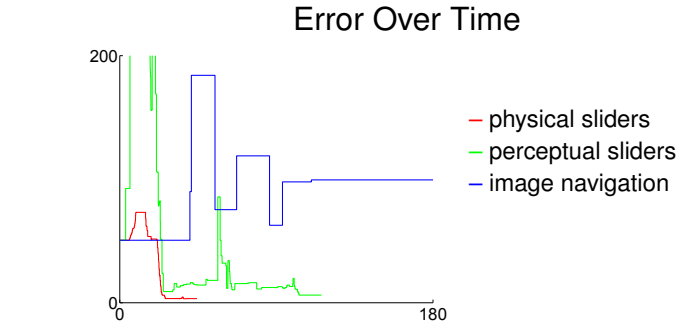
physical sliders

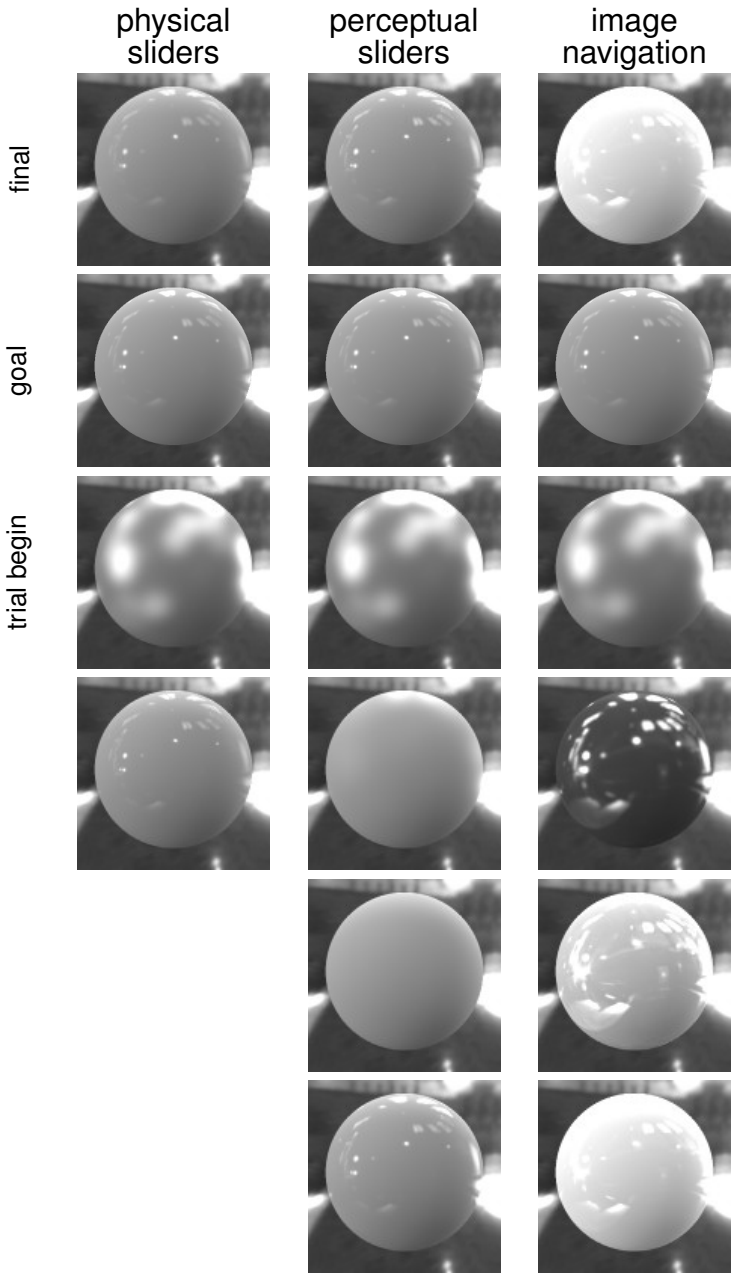
perceptual sliders

image navigation



Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders

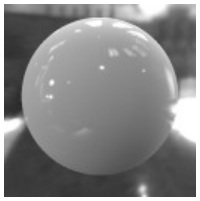
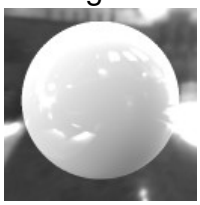
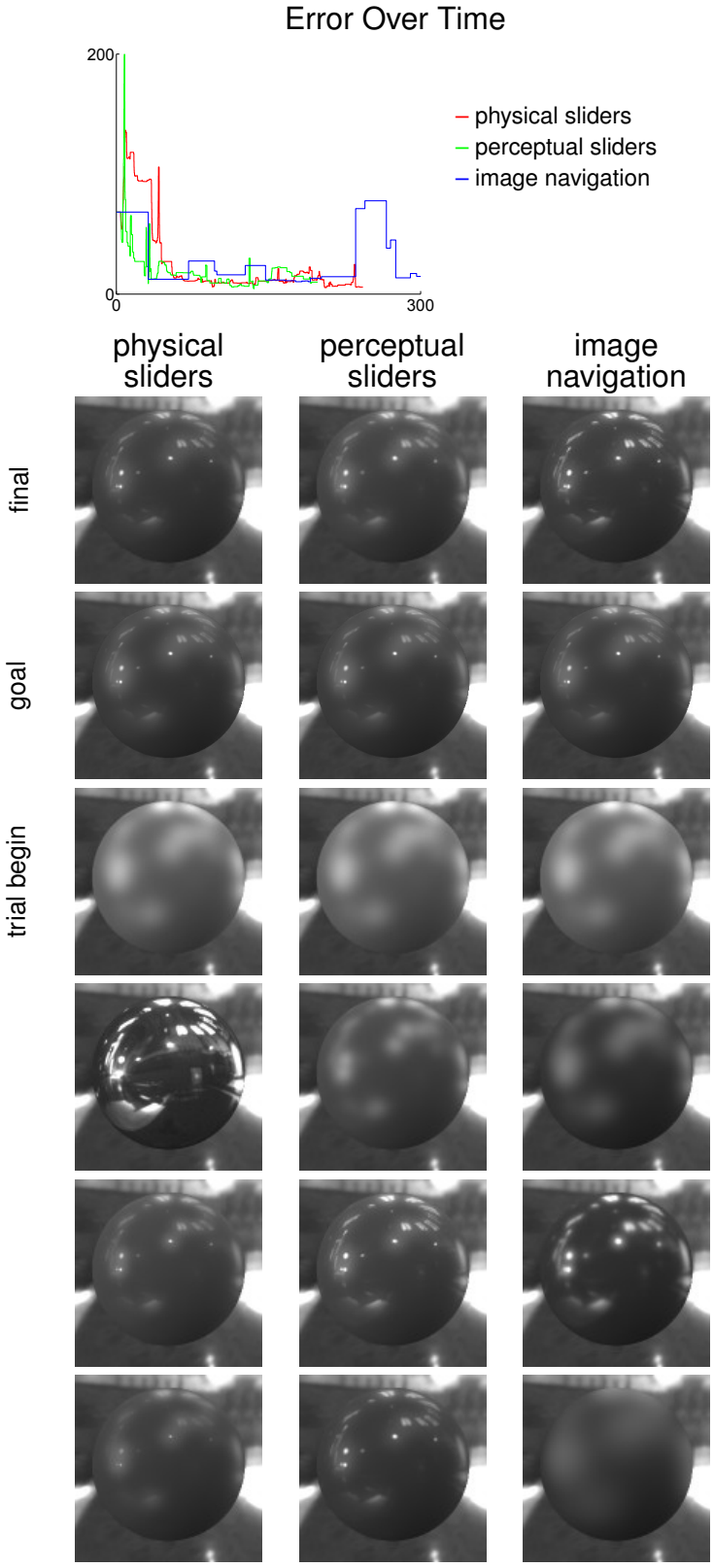
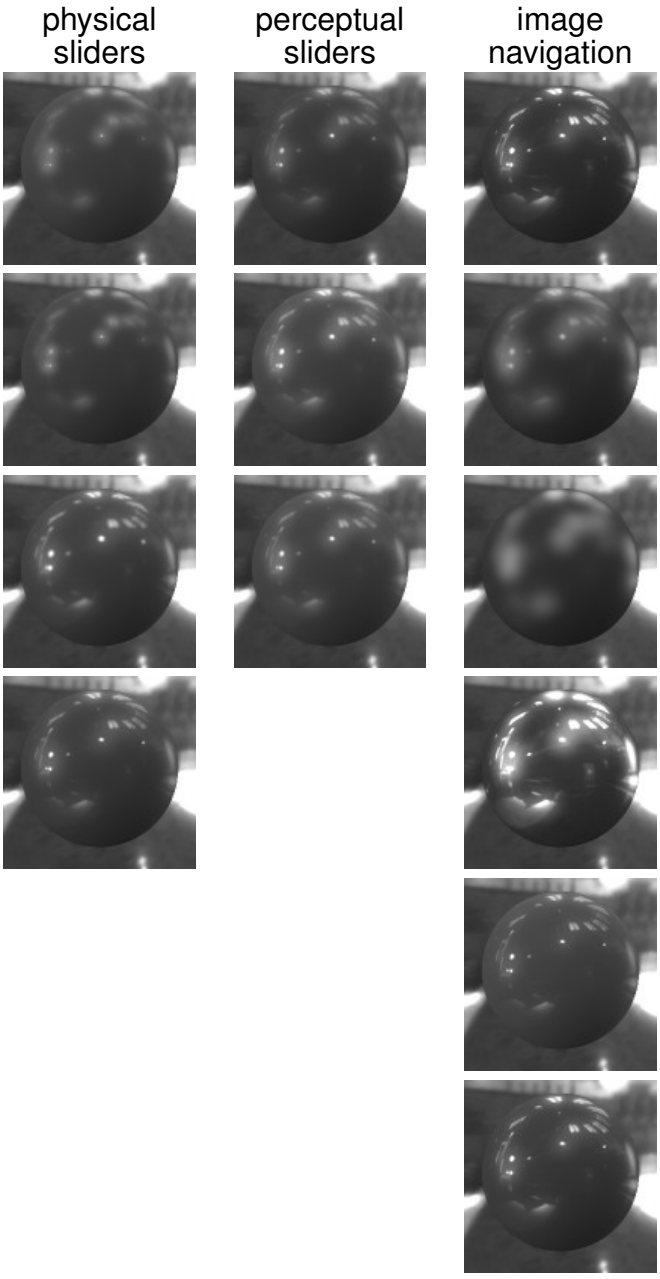


image navigation

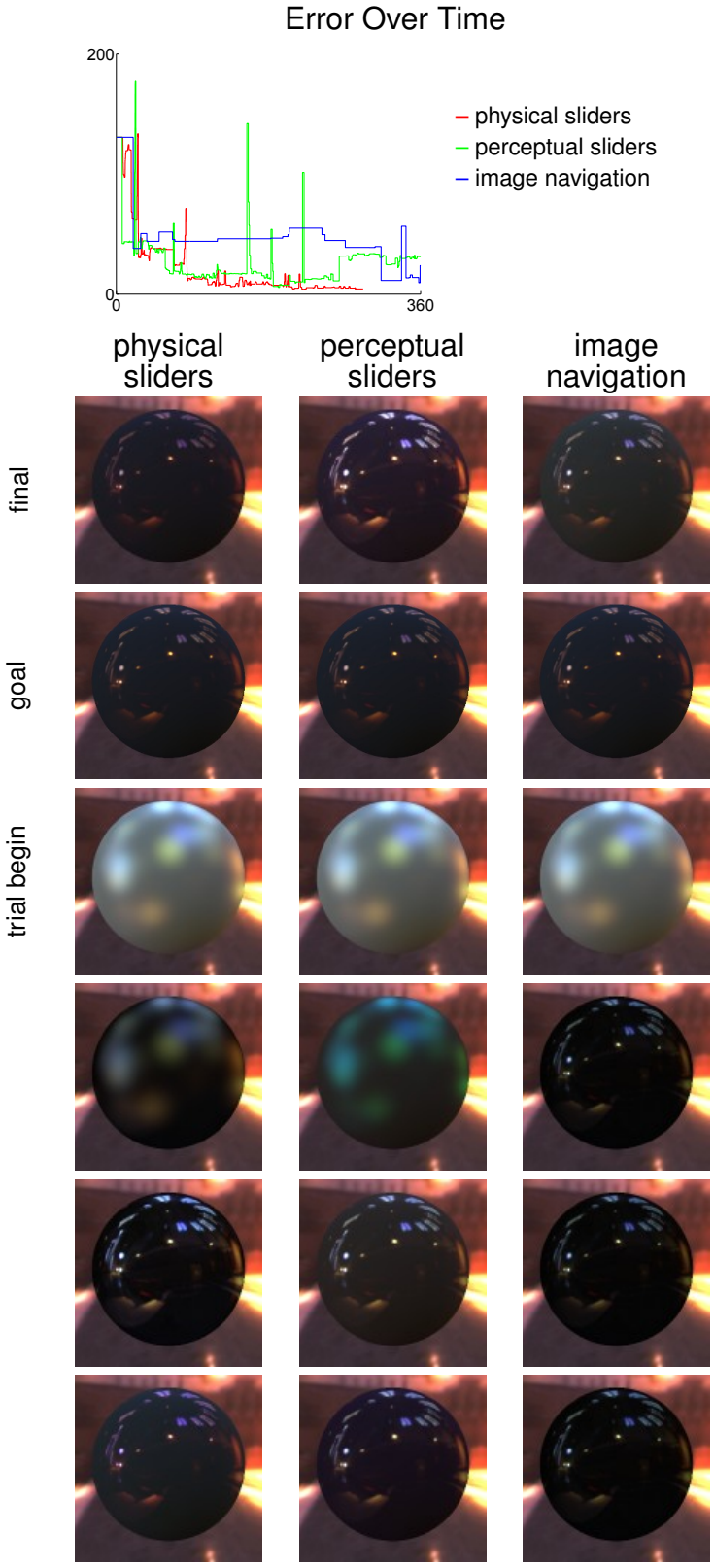


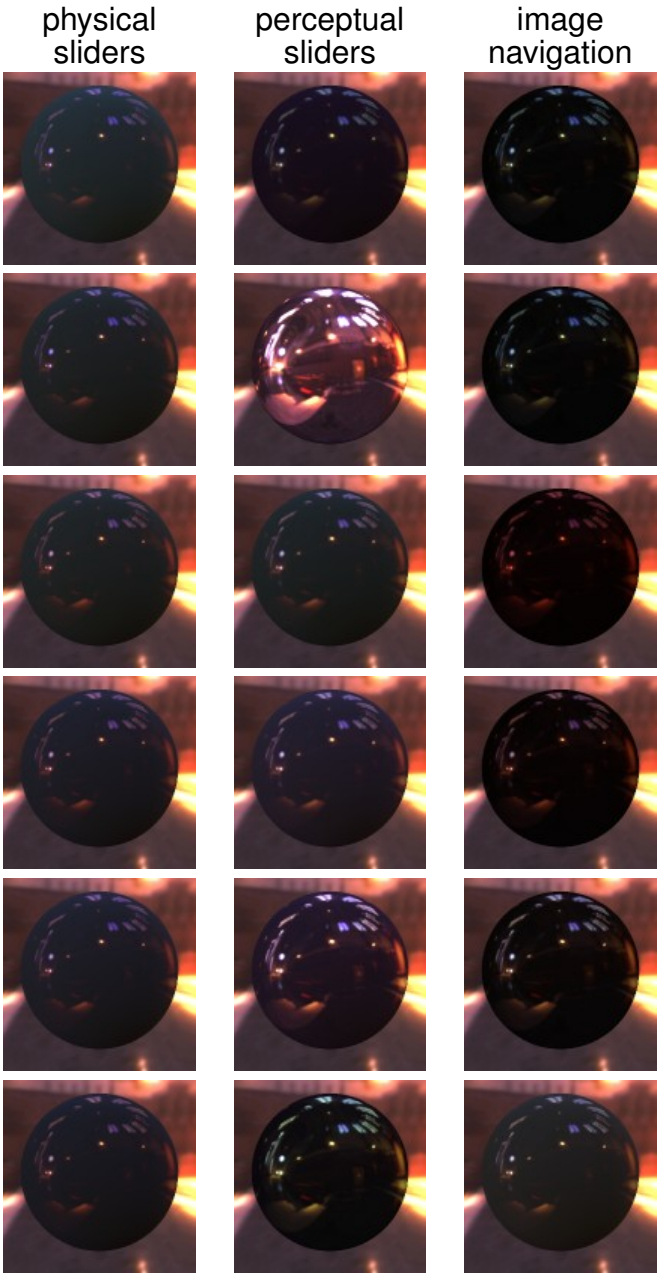
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

physical sliders

perceptual sliders

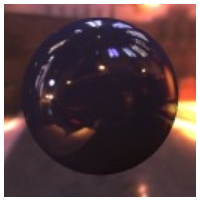
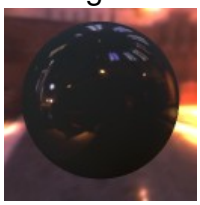
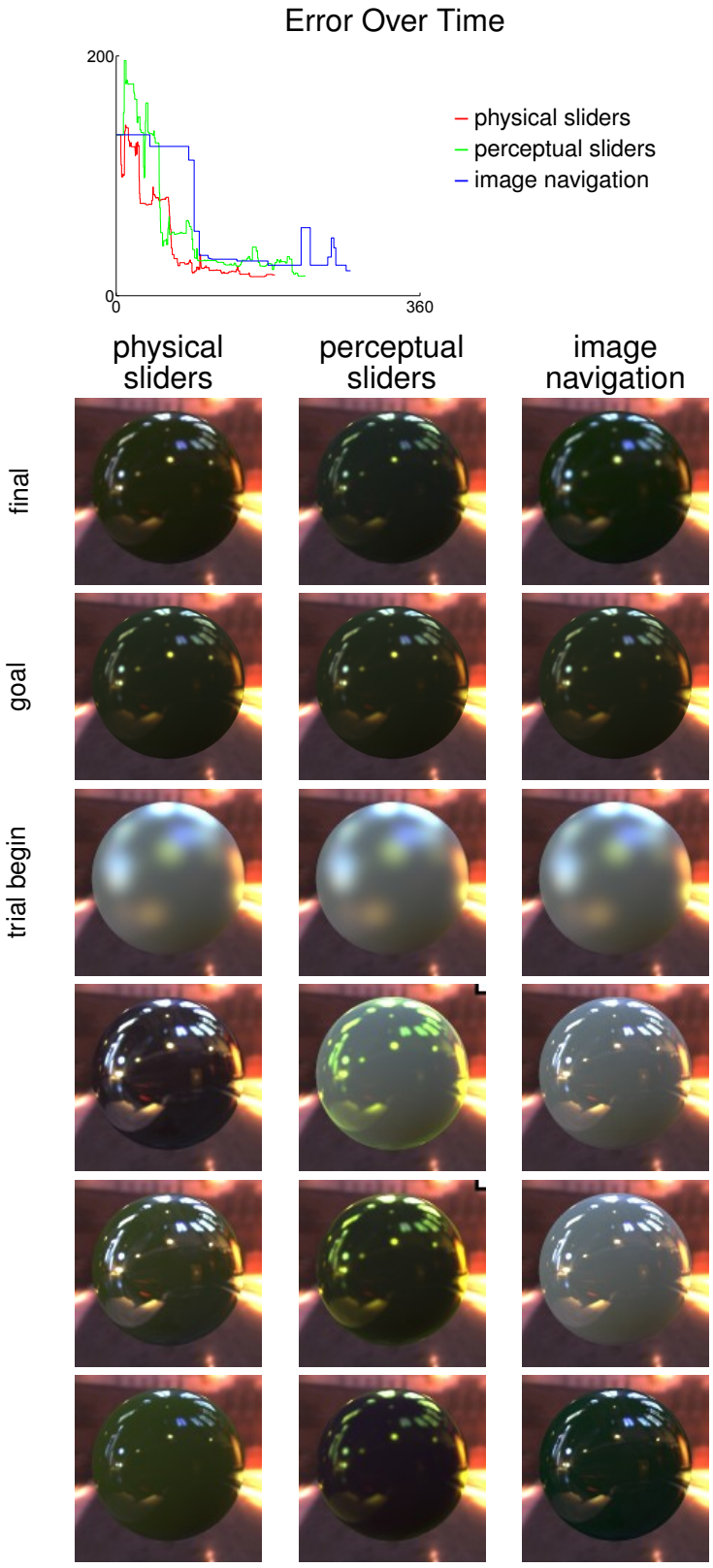
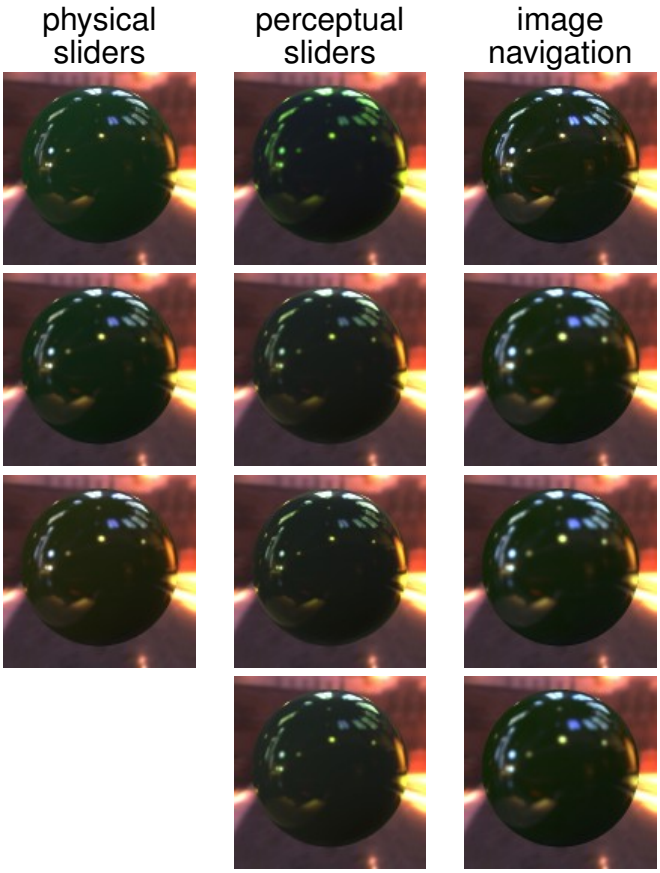


image navigation

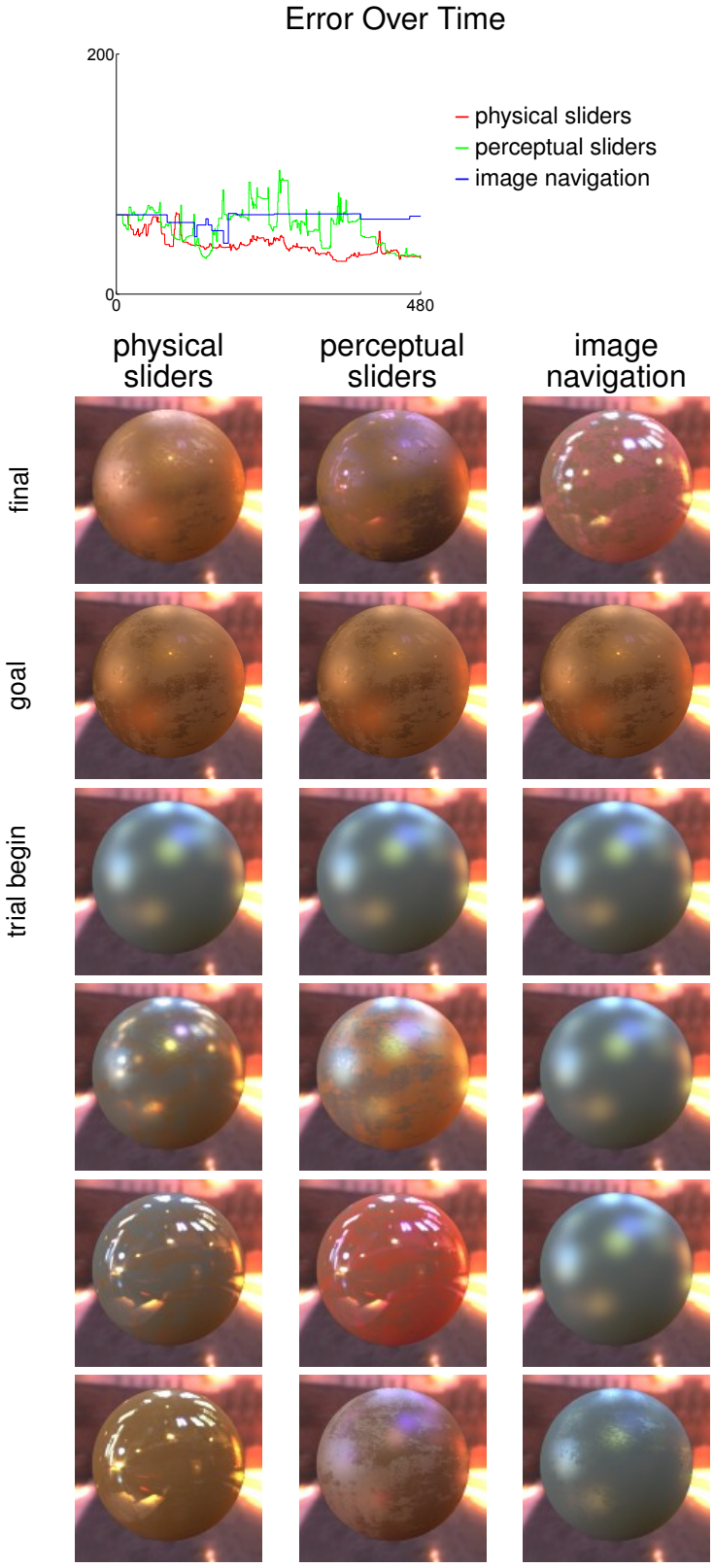


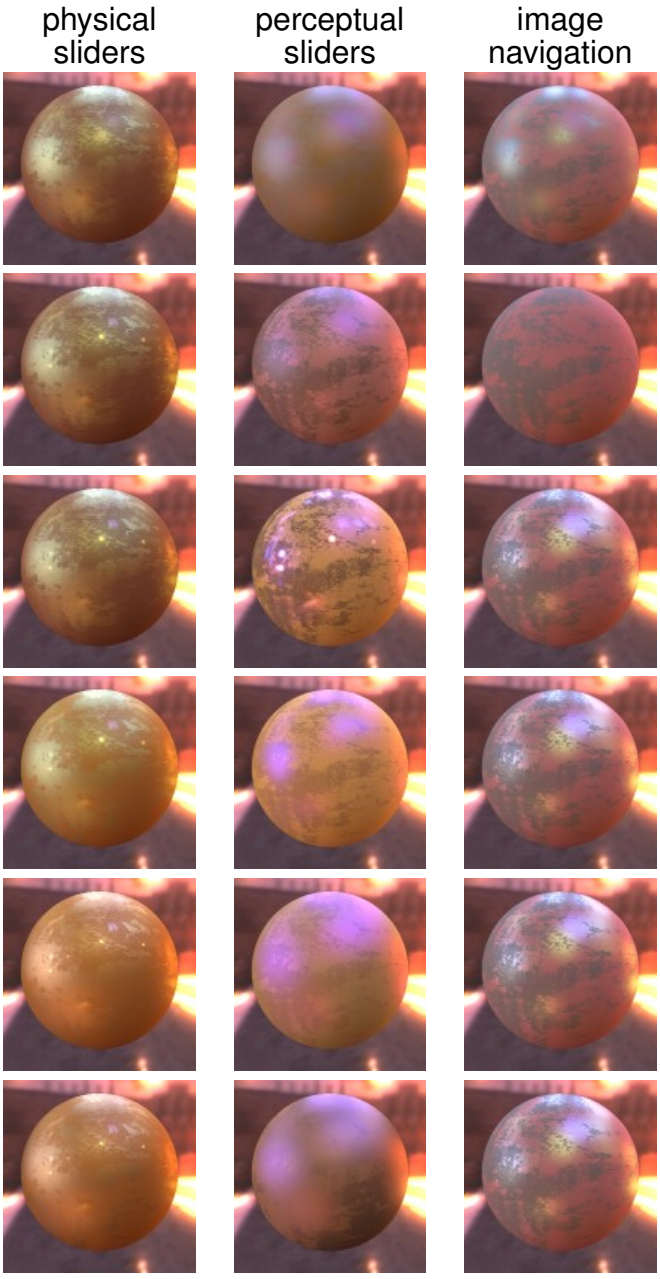
Trial 5

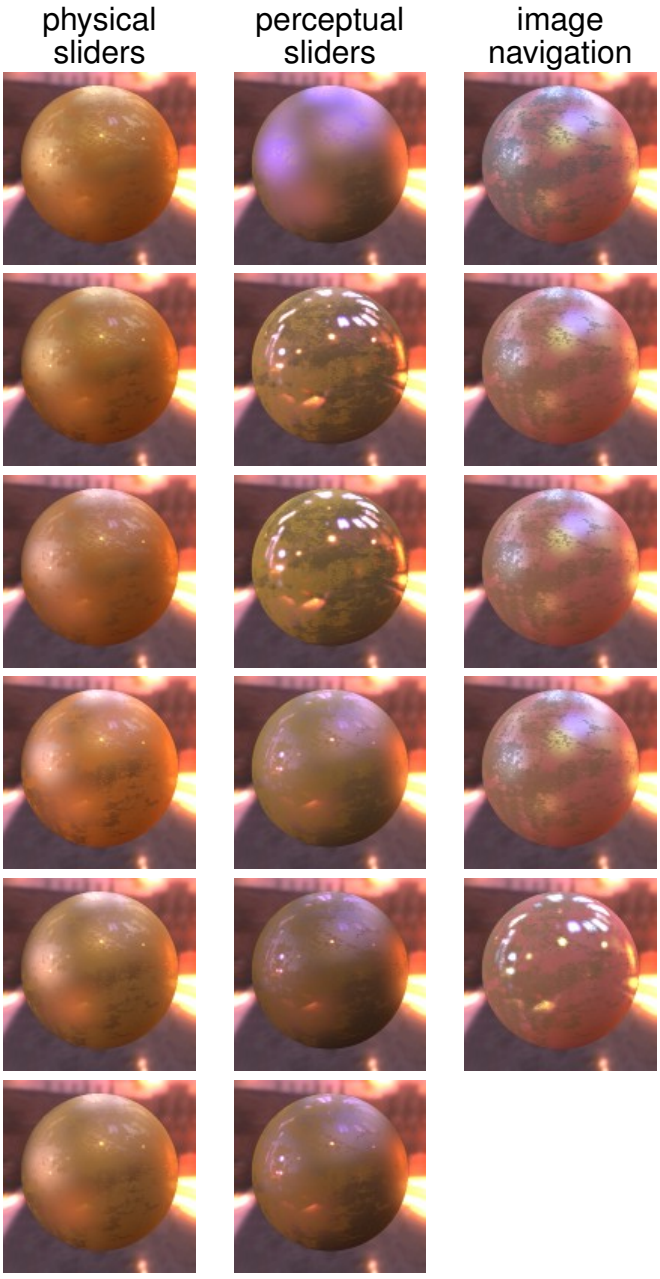

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

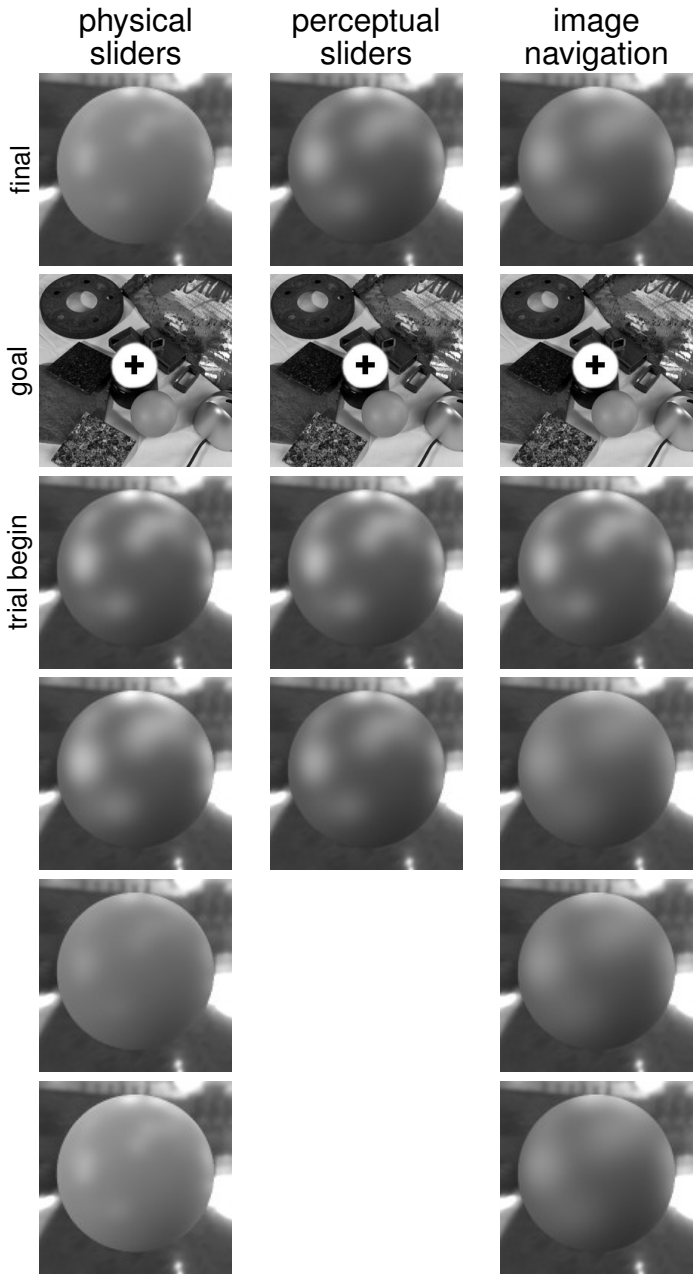
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

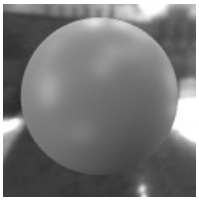

physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

Trial 7

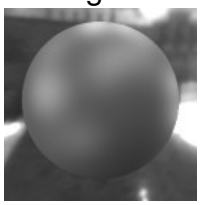

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

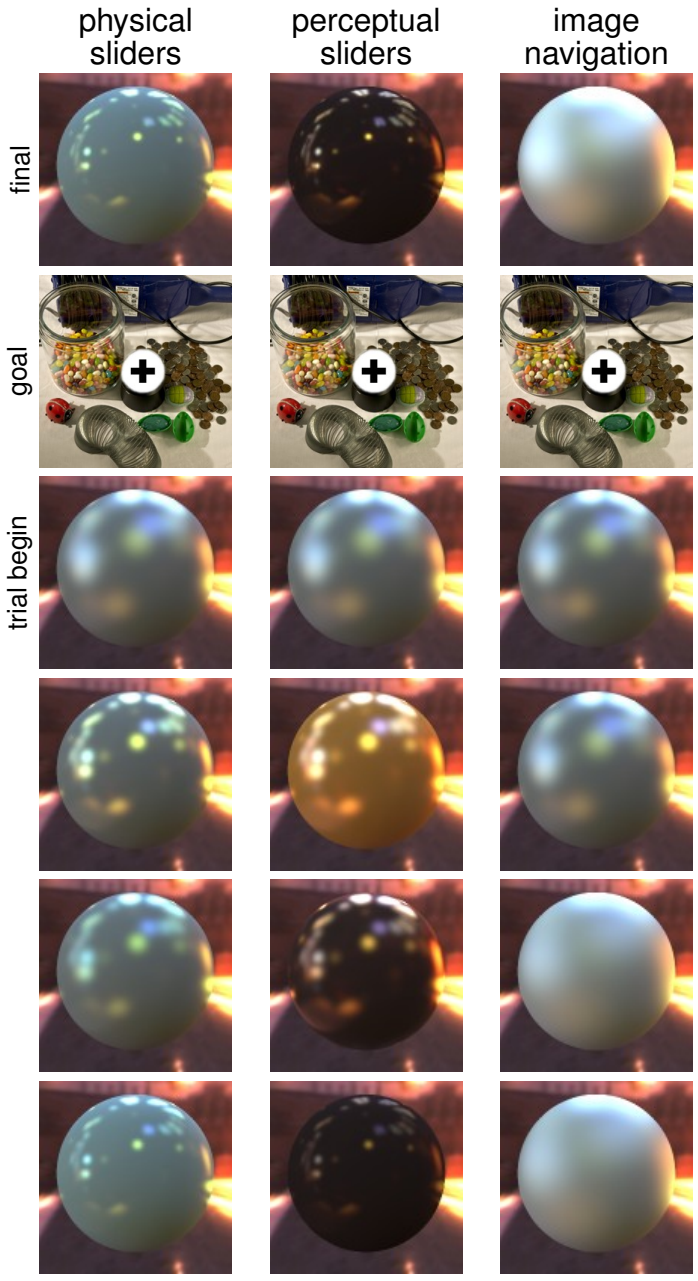


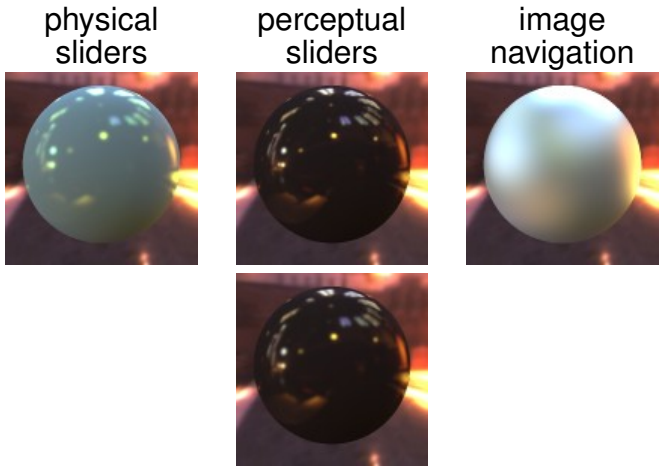
perceptual sliders

image navigation

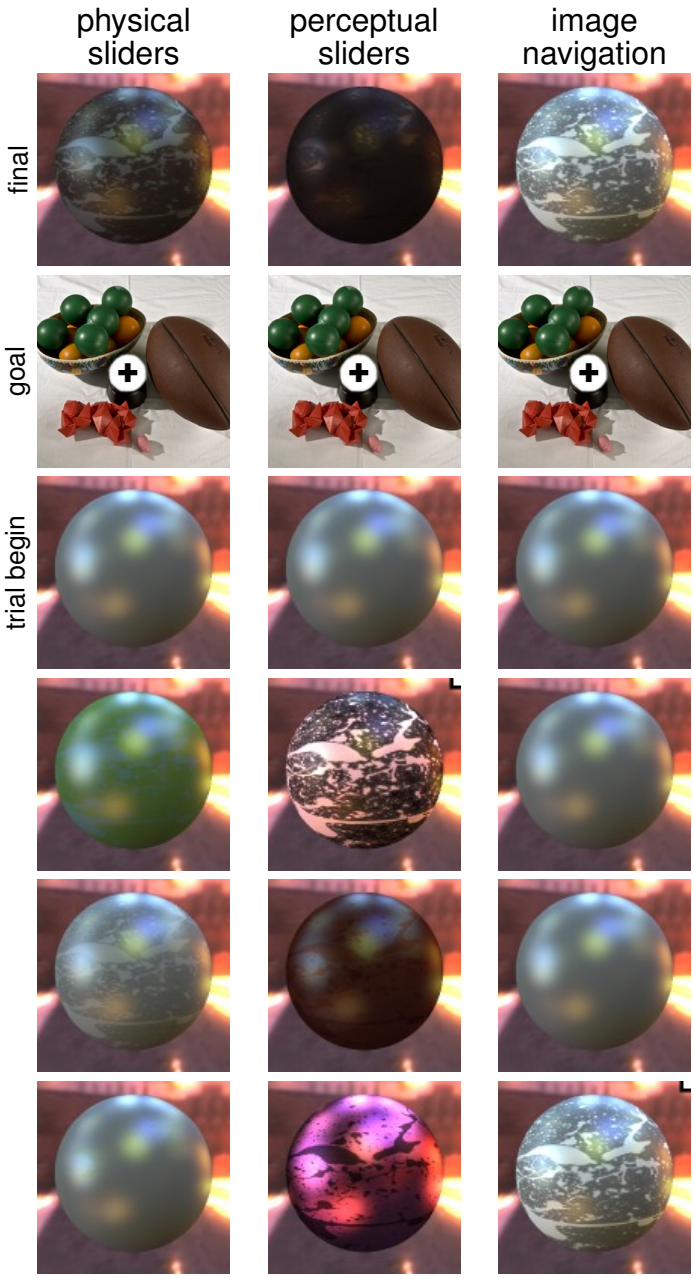


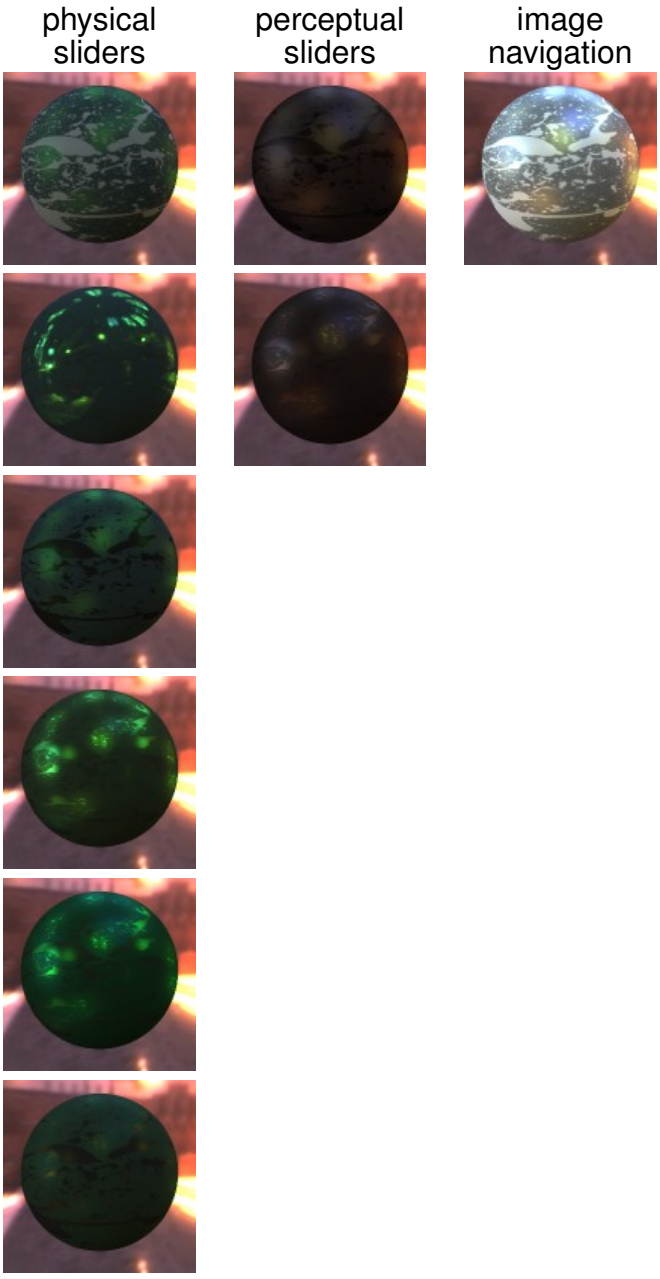
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 9

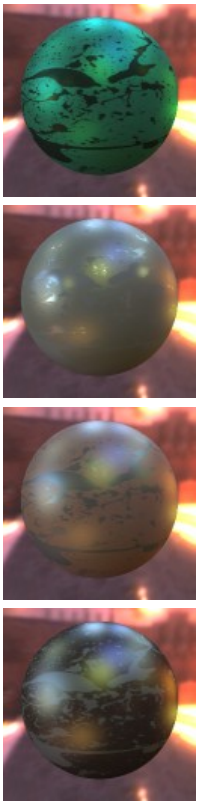

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

physical sliders

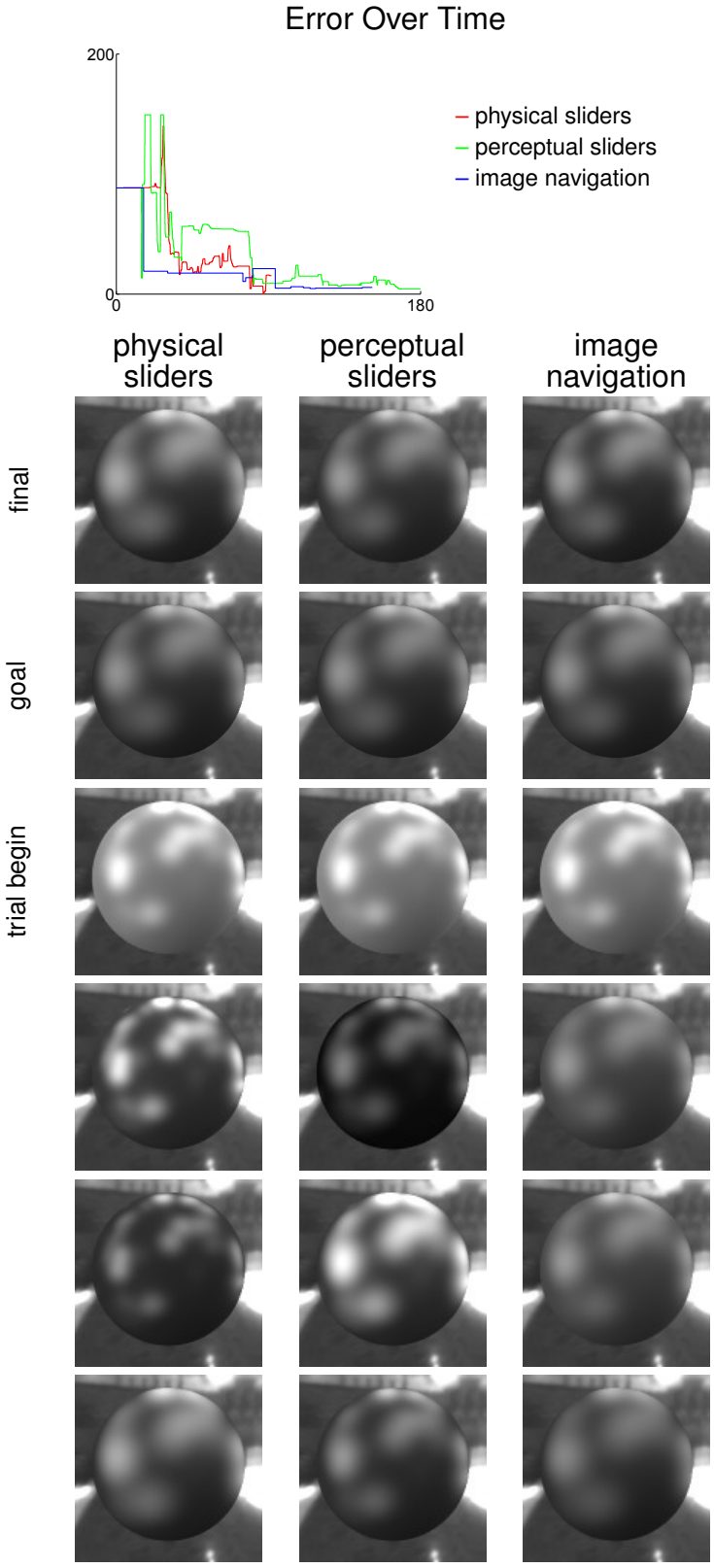
perceptual sliders

image navigation



Subject 10

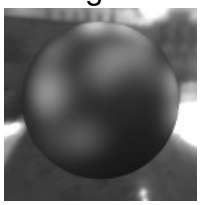
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

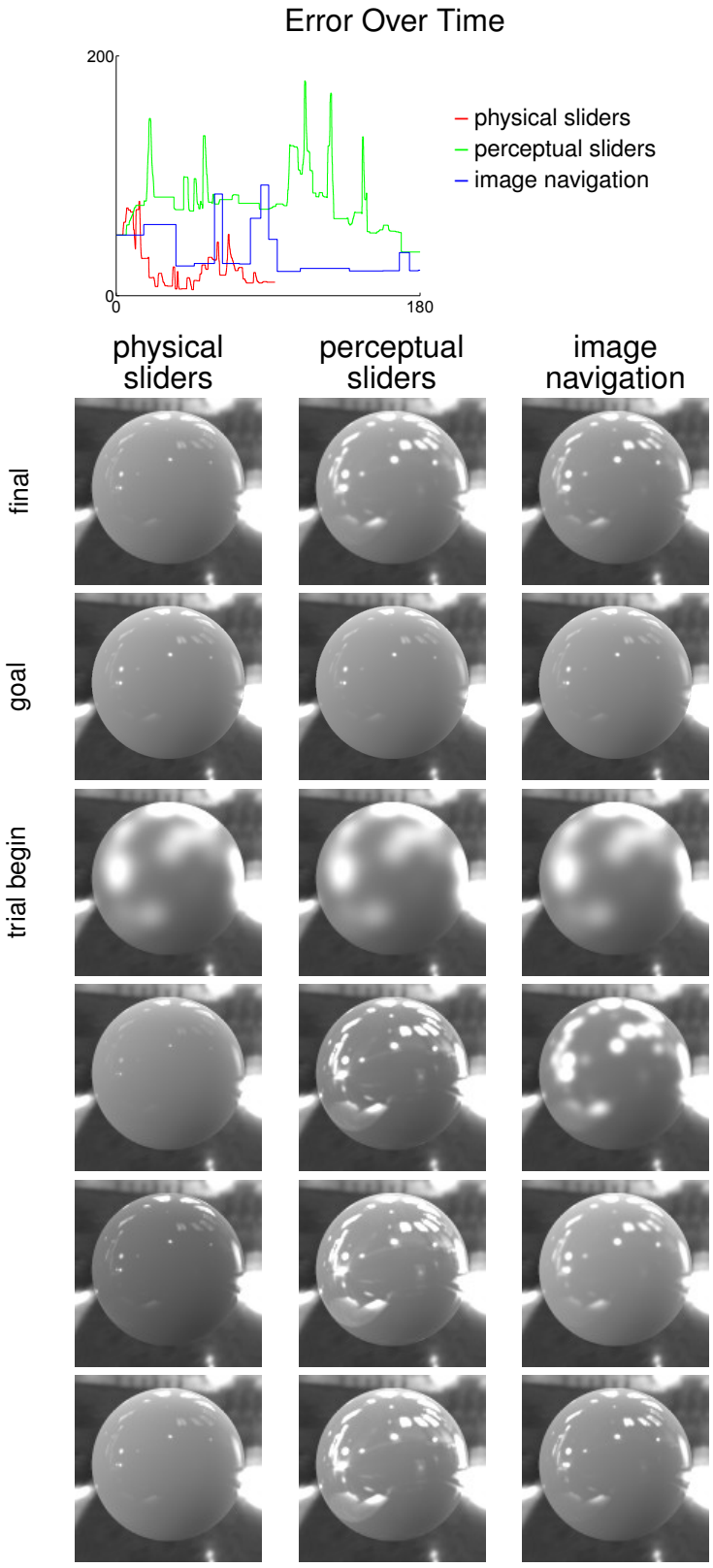
physical sliders

perceptual sliders

image navigation



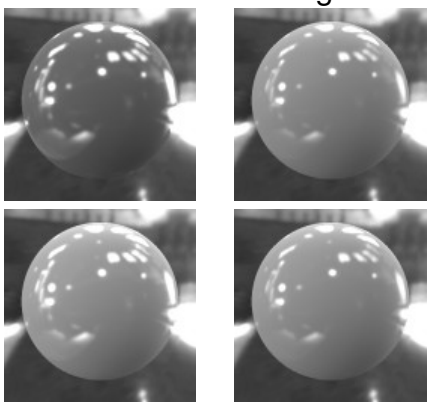
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

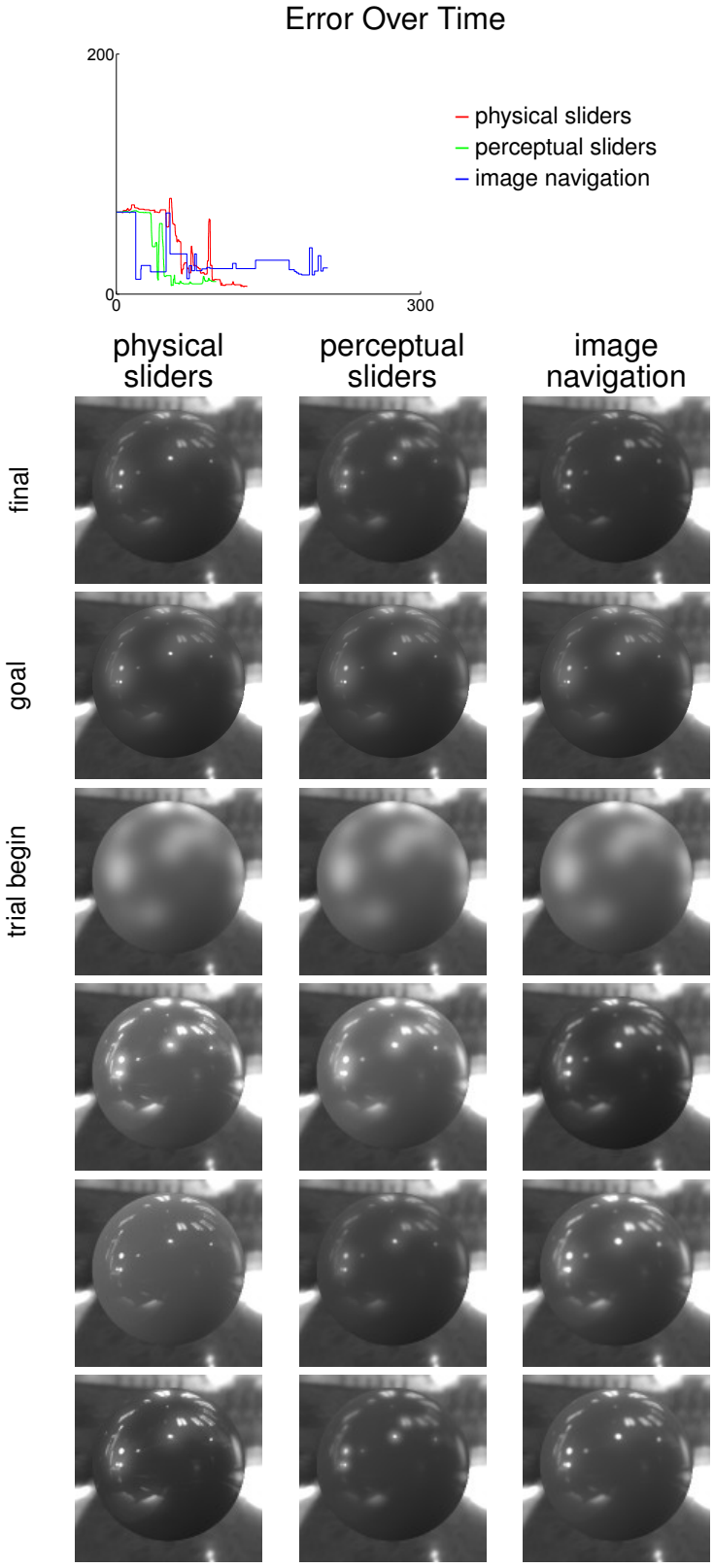
physical sliders

perceptual sliders

image navigation



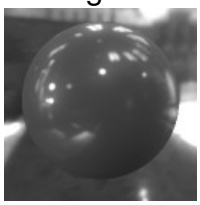
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

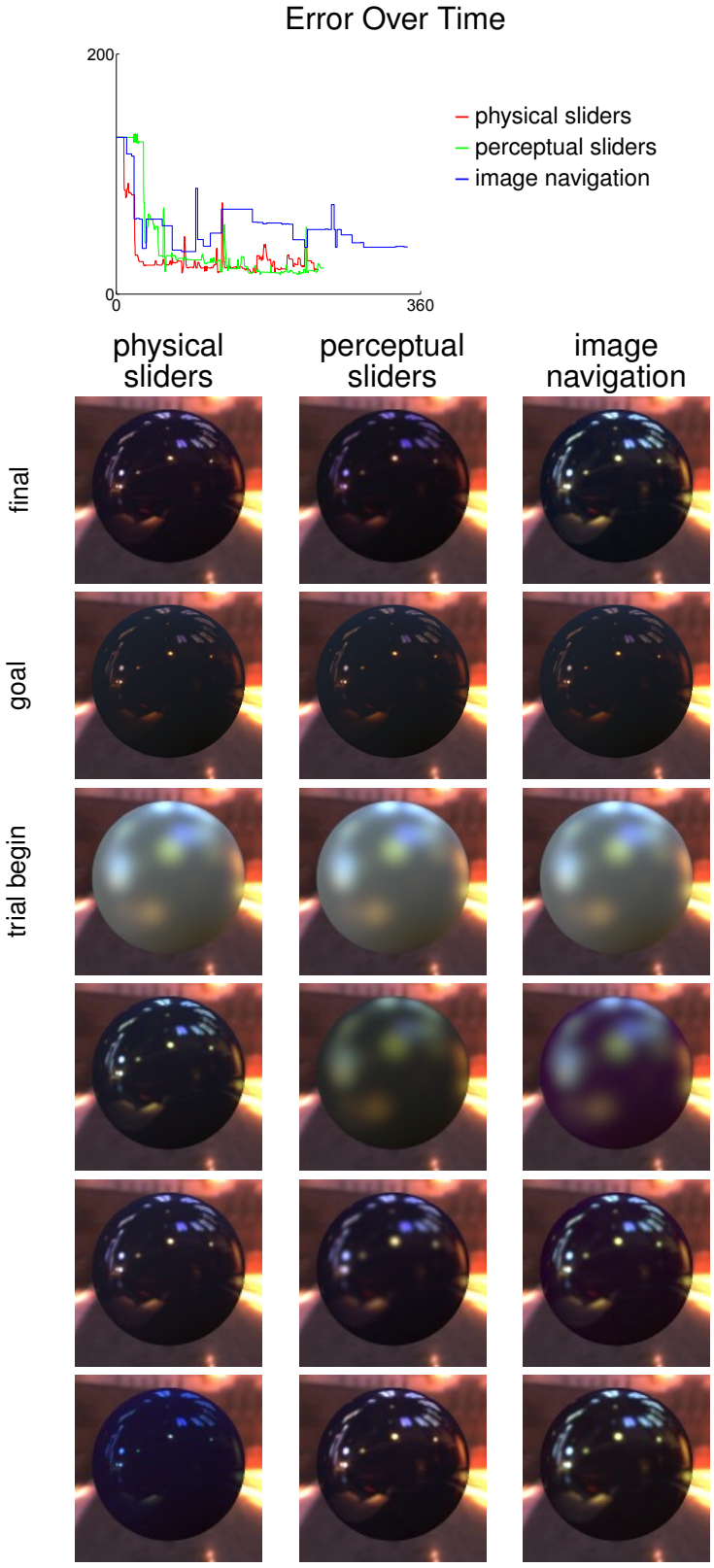
physical sliders

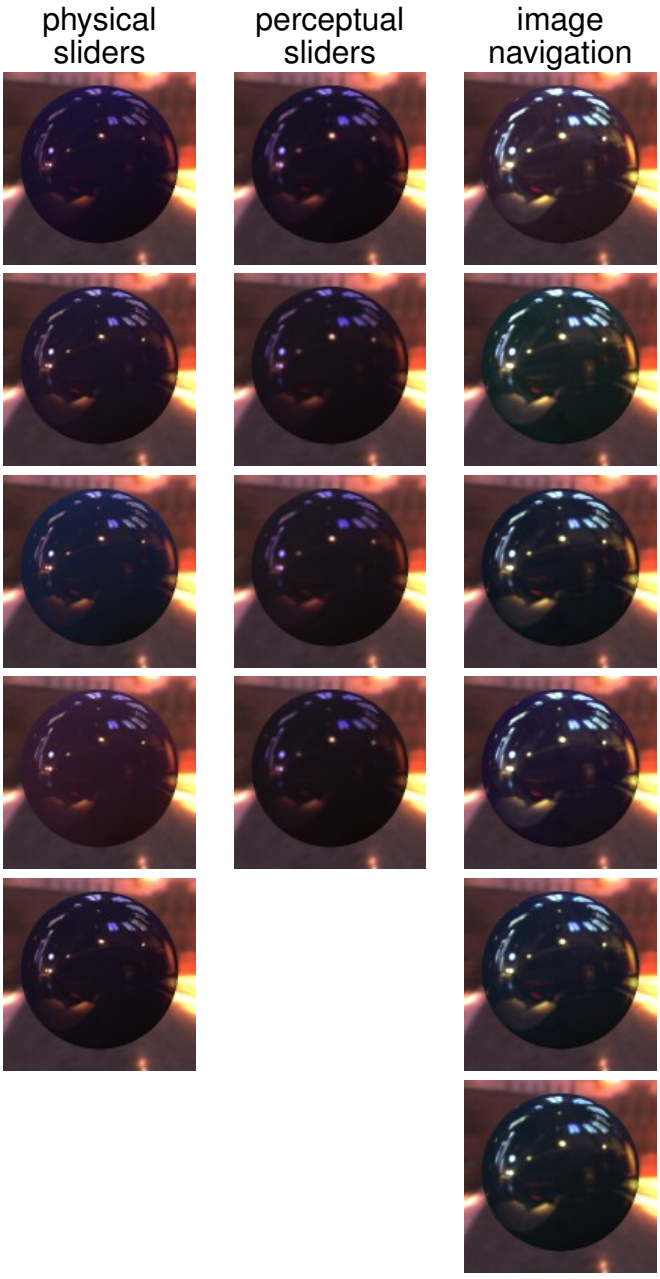
perceptual sliders

image navigation



Trial 4

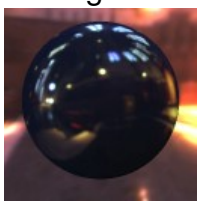

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

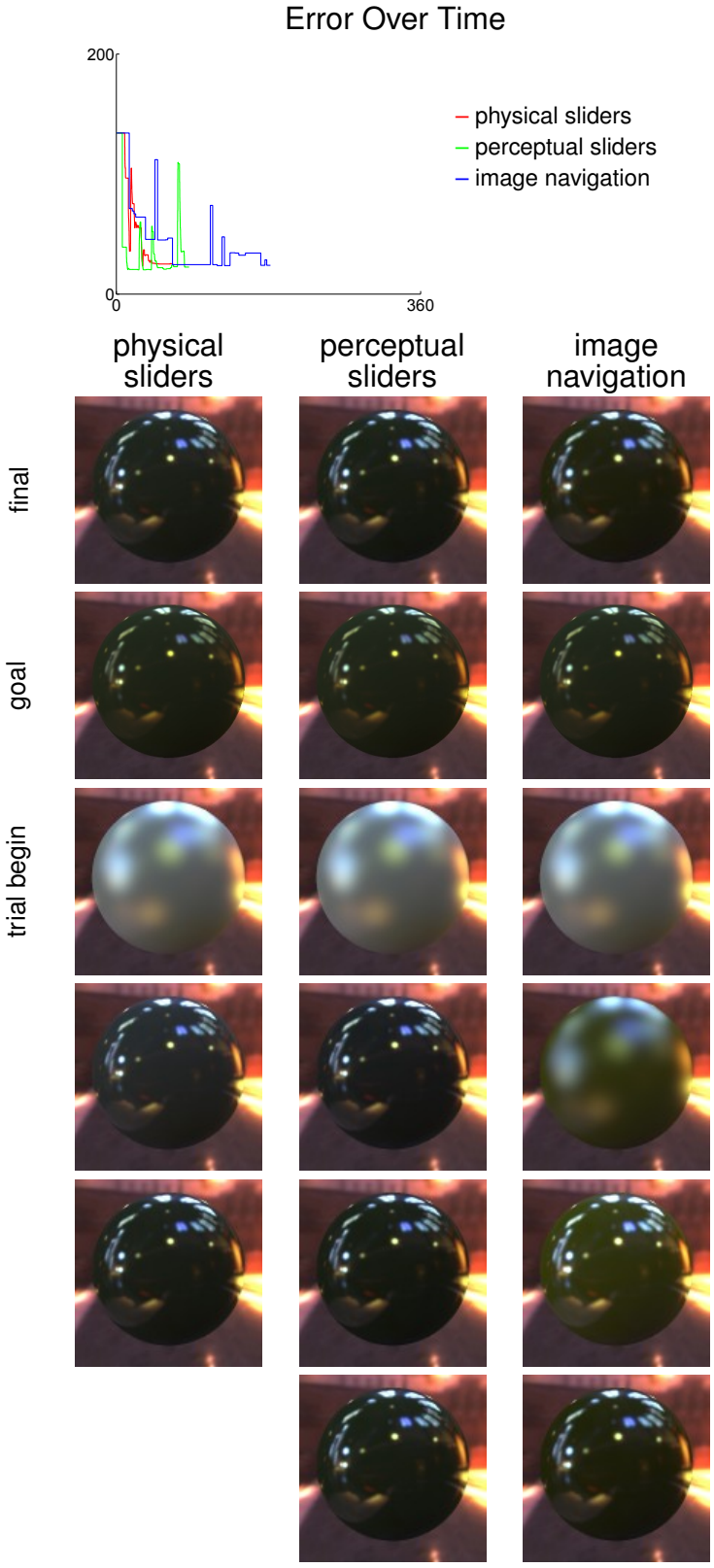
physical sliders

perceptual sliders

image navigation



Trial 5

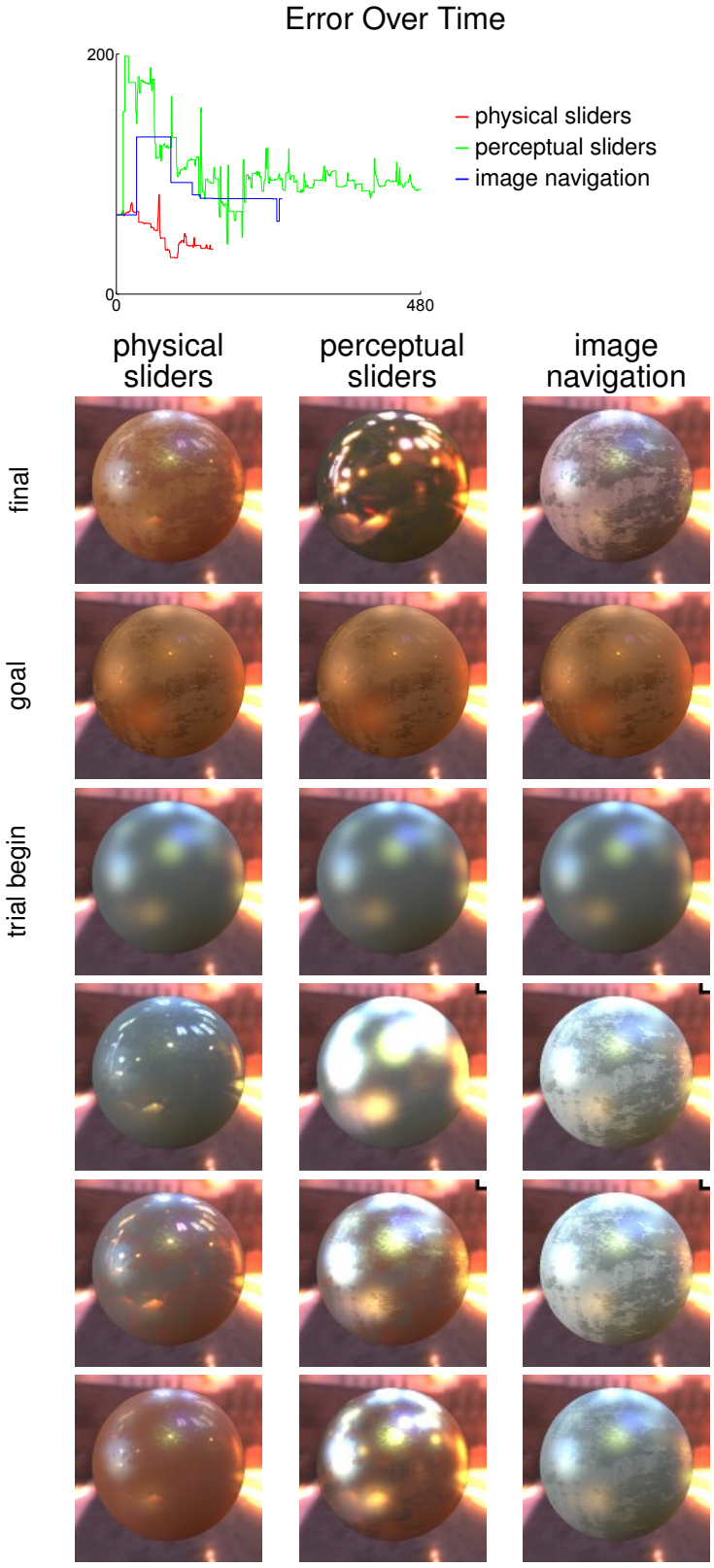

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

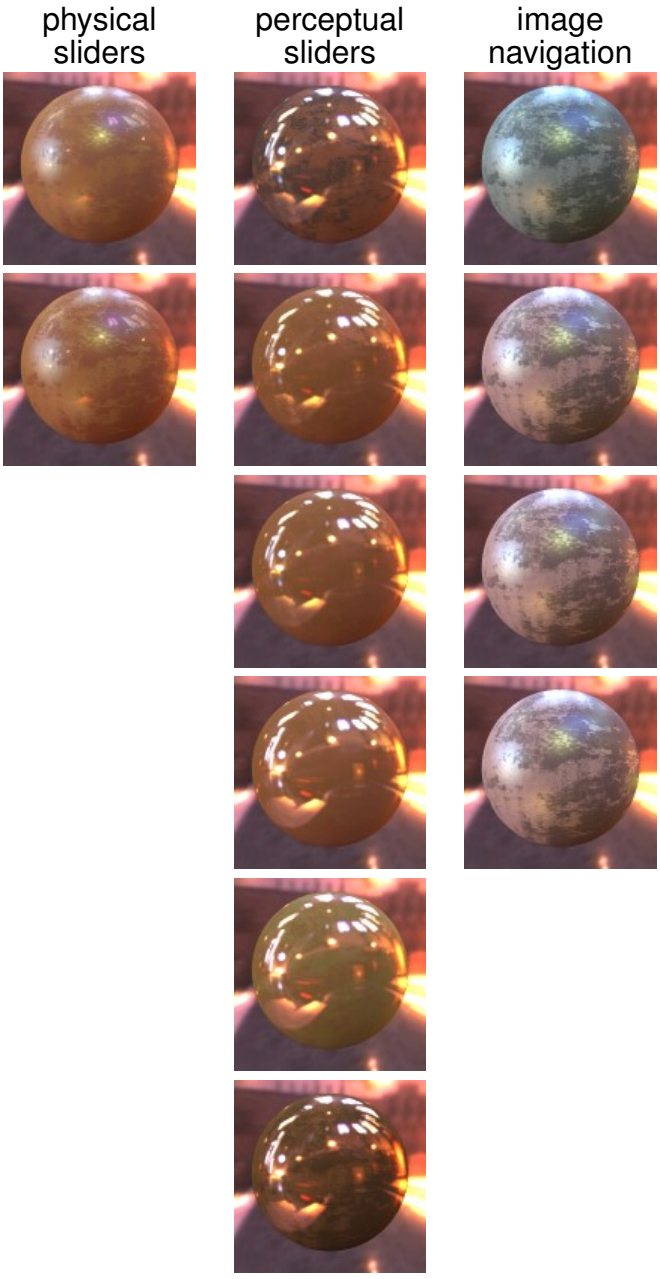
physical sliders

perceptual sliders

image navigation

Trial 6

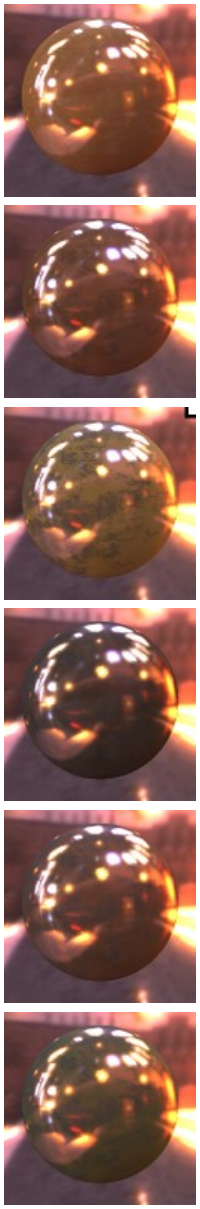

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

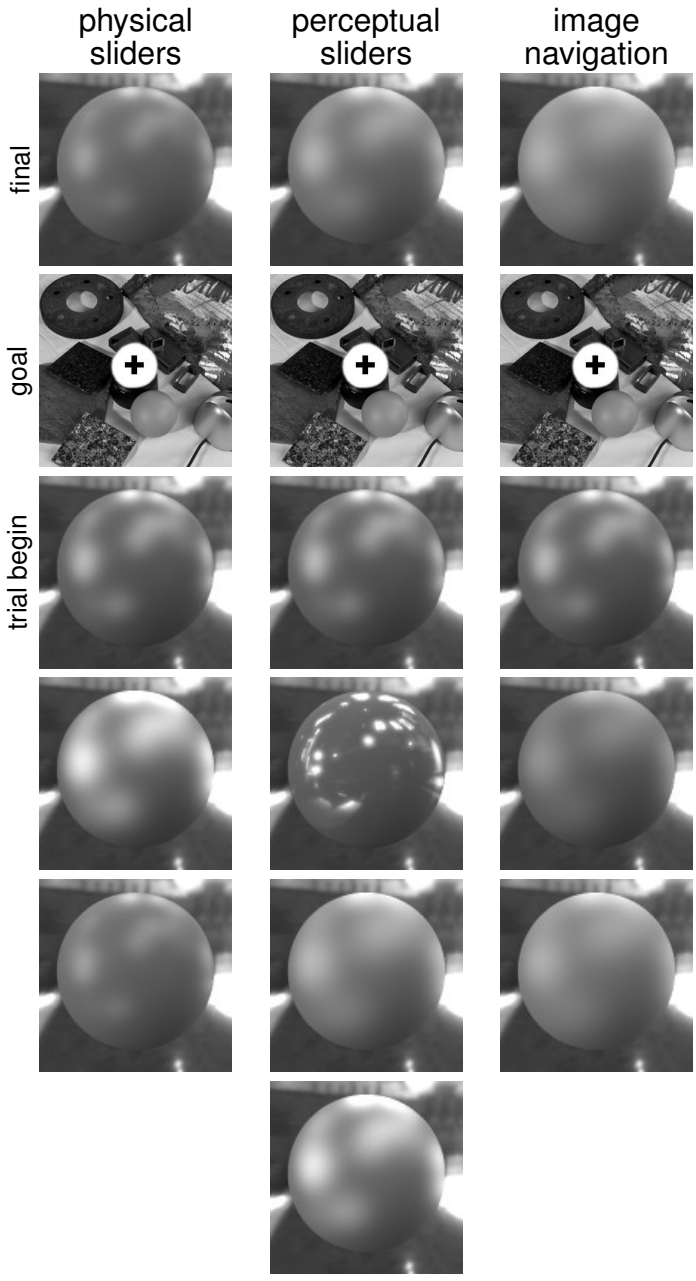
physical sliders

perceptual sliders

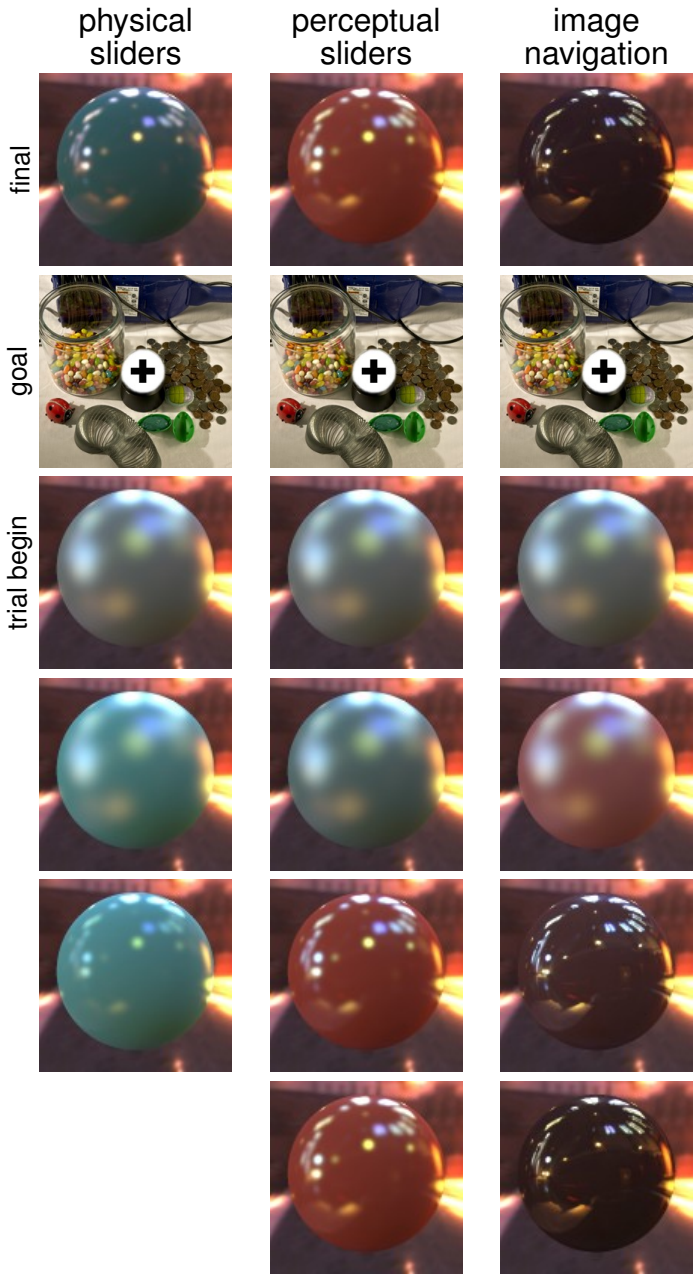
image navigation



Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 8

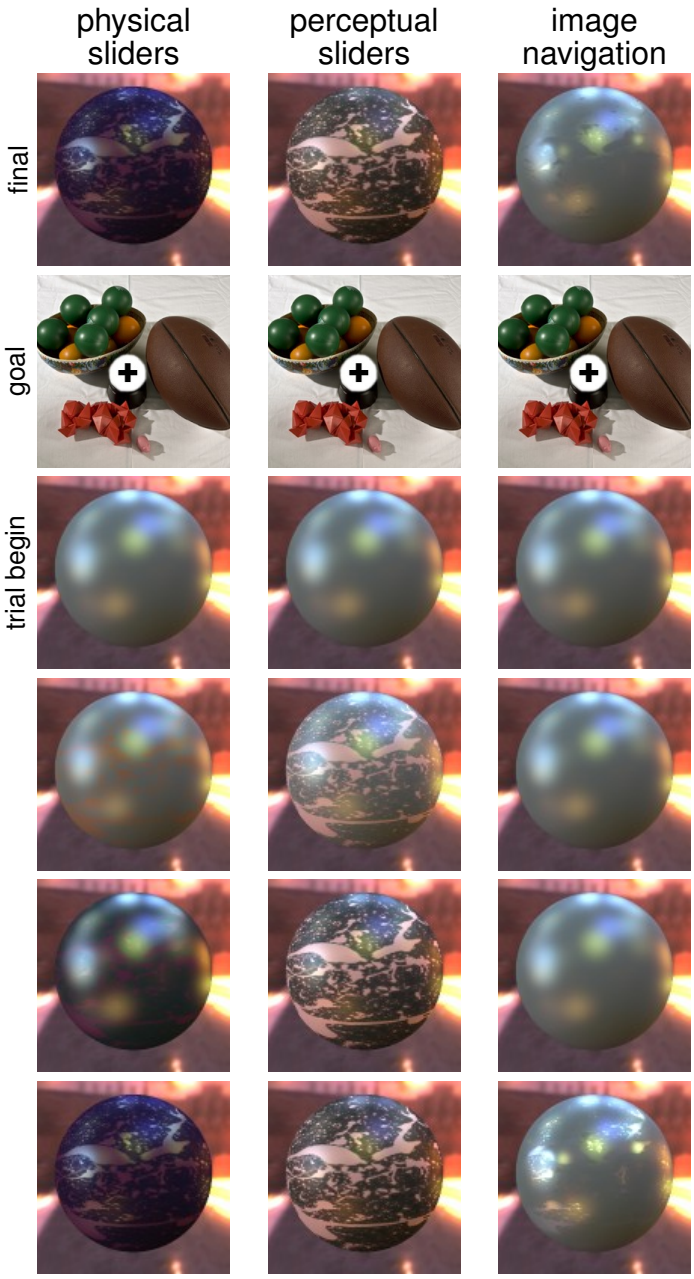

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders

image navigation

Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

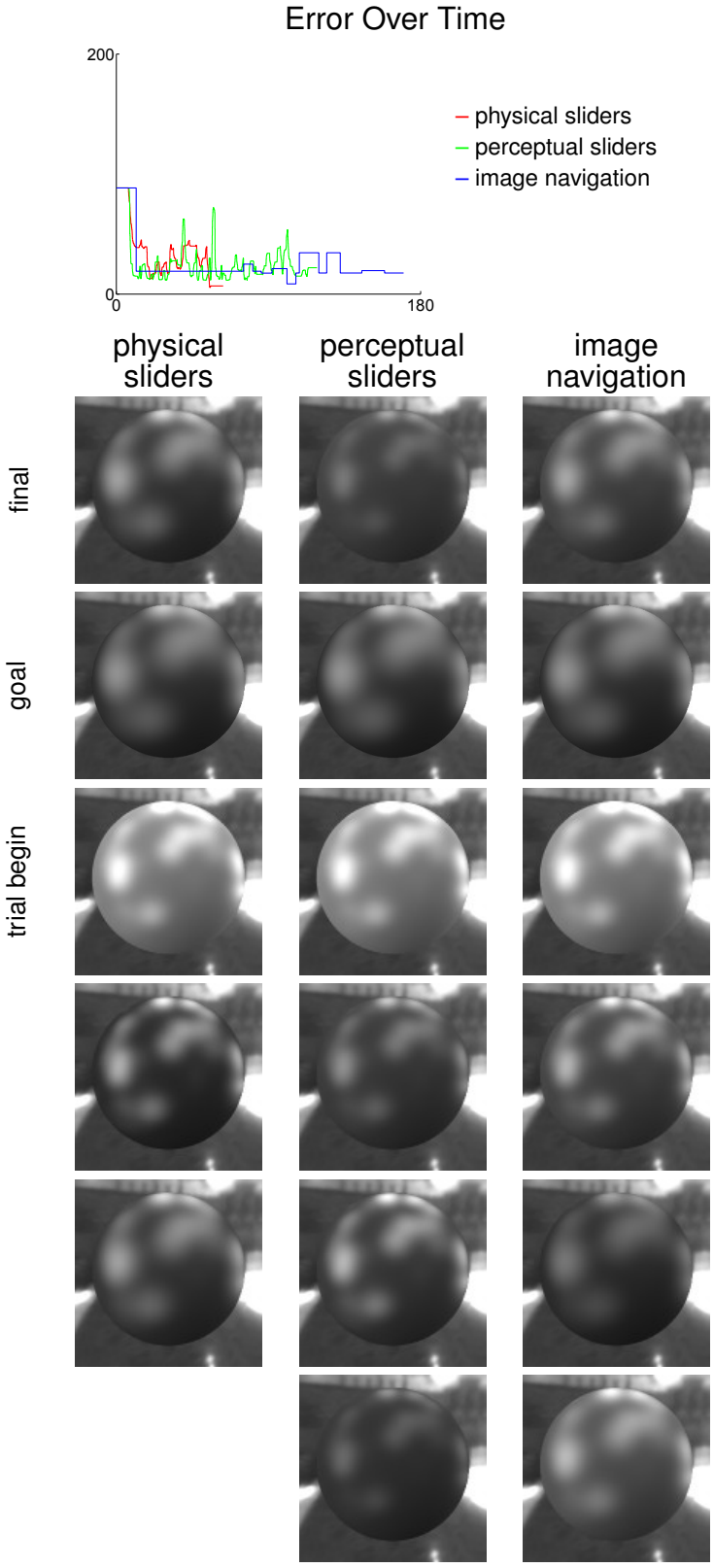
physical sliders

perceptual sliders

image navigation

Subject 11

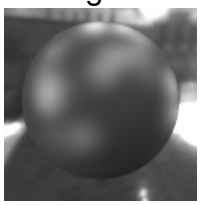
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

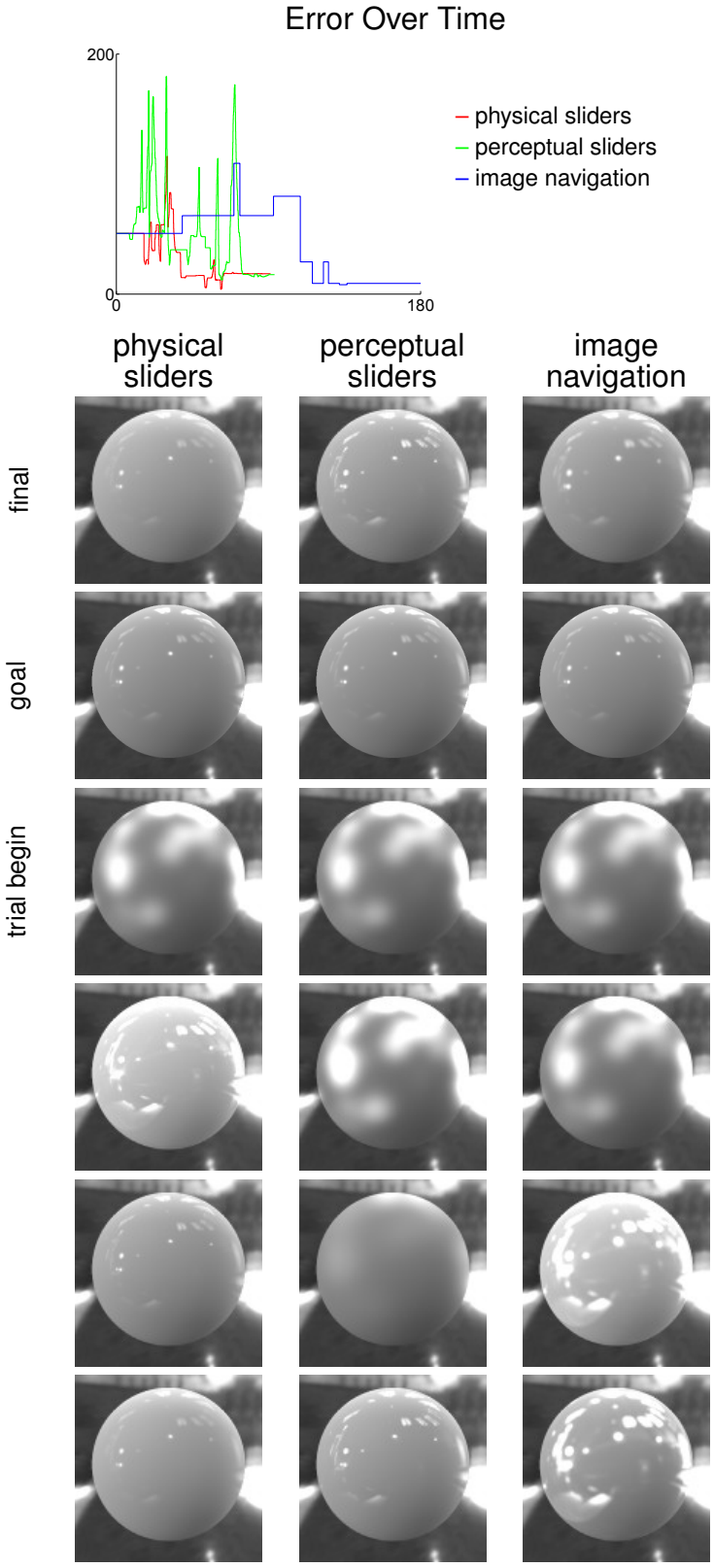
physical sliders

perceptual sliders

image navigation



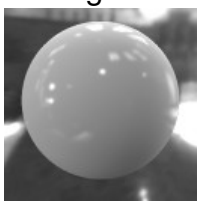
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

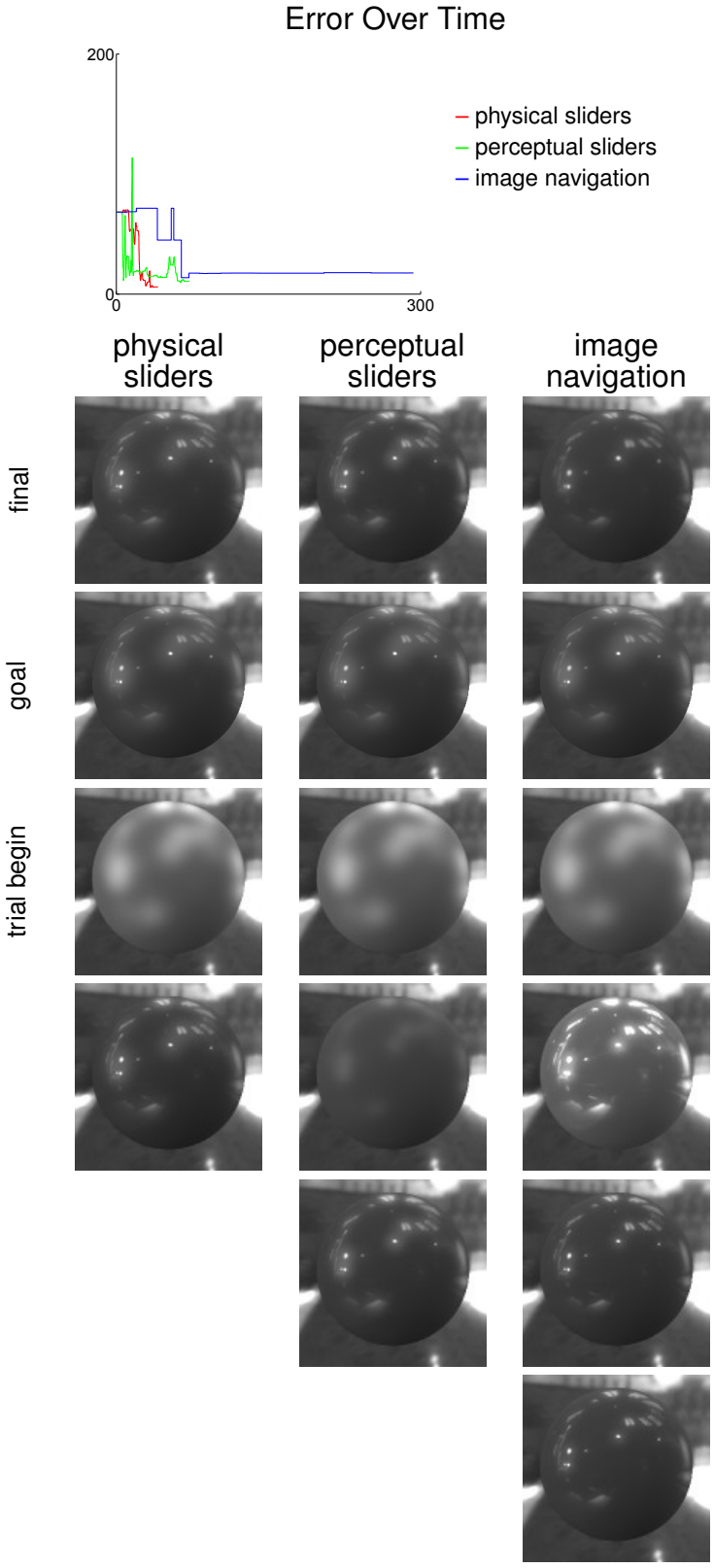
physical sliders

perceptual sliders

image navigation

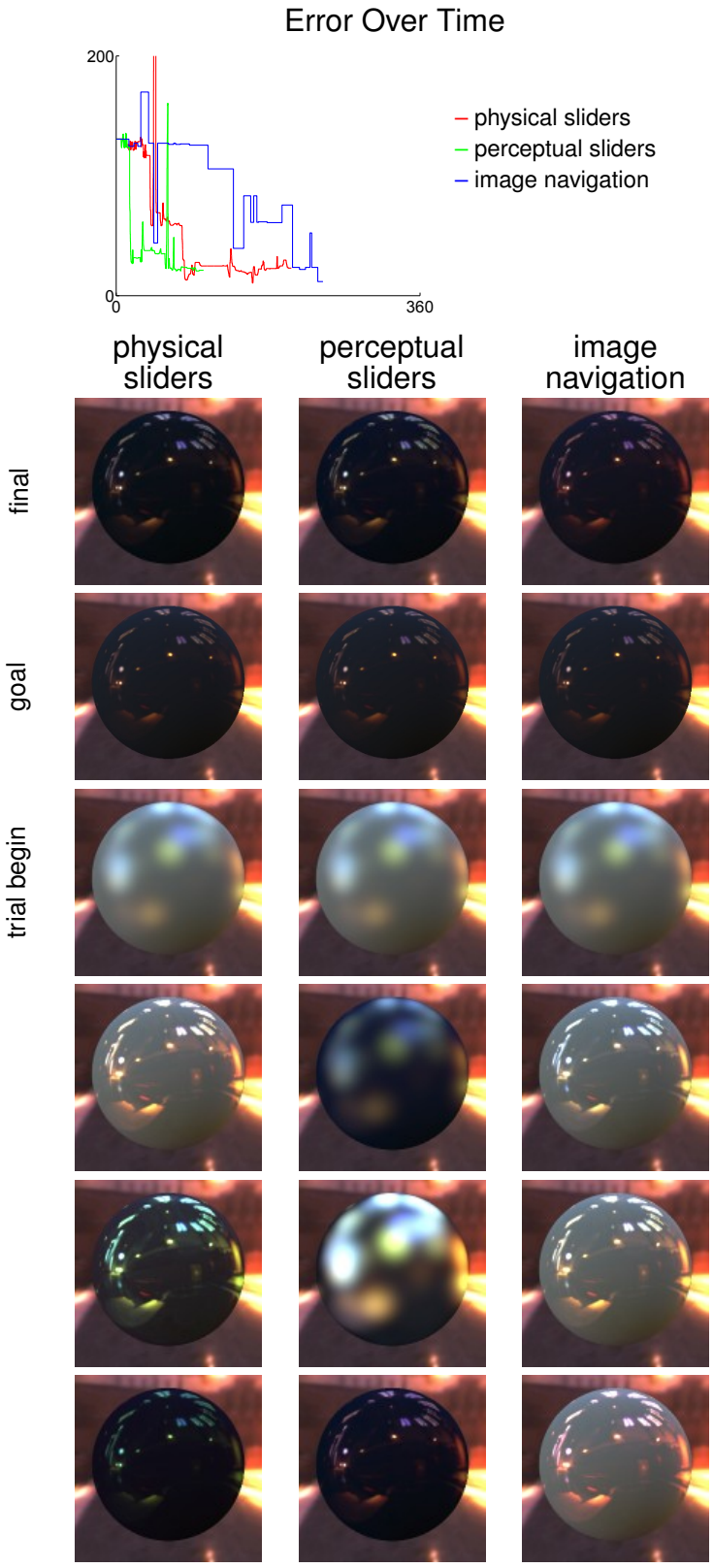


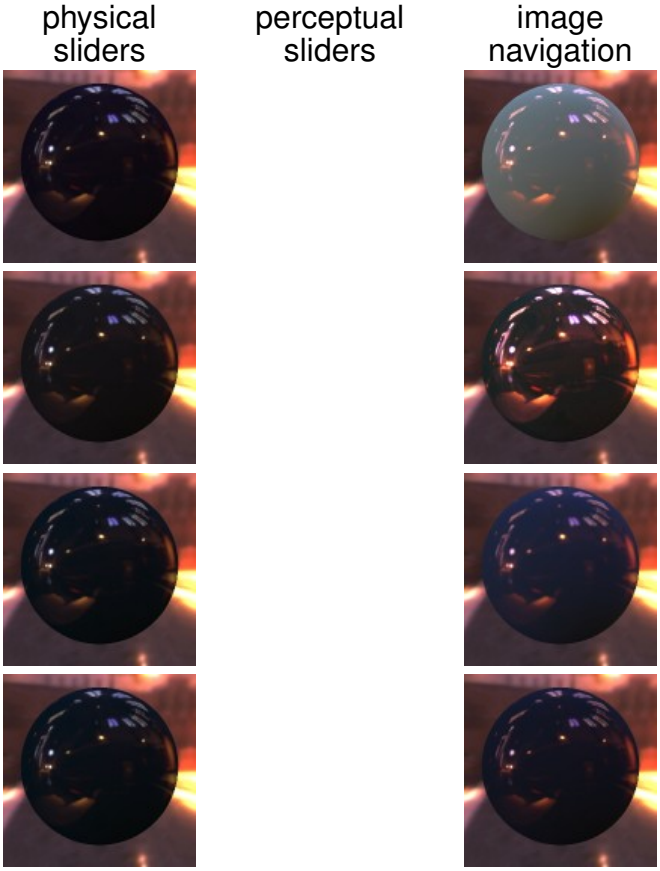
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

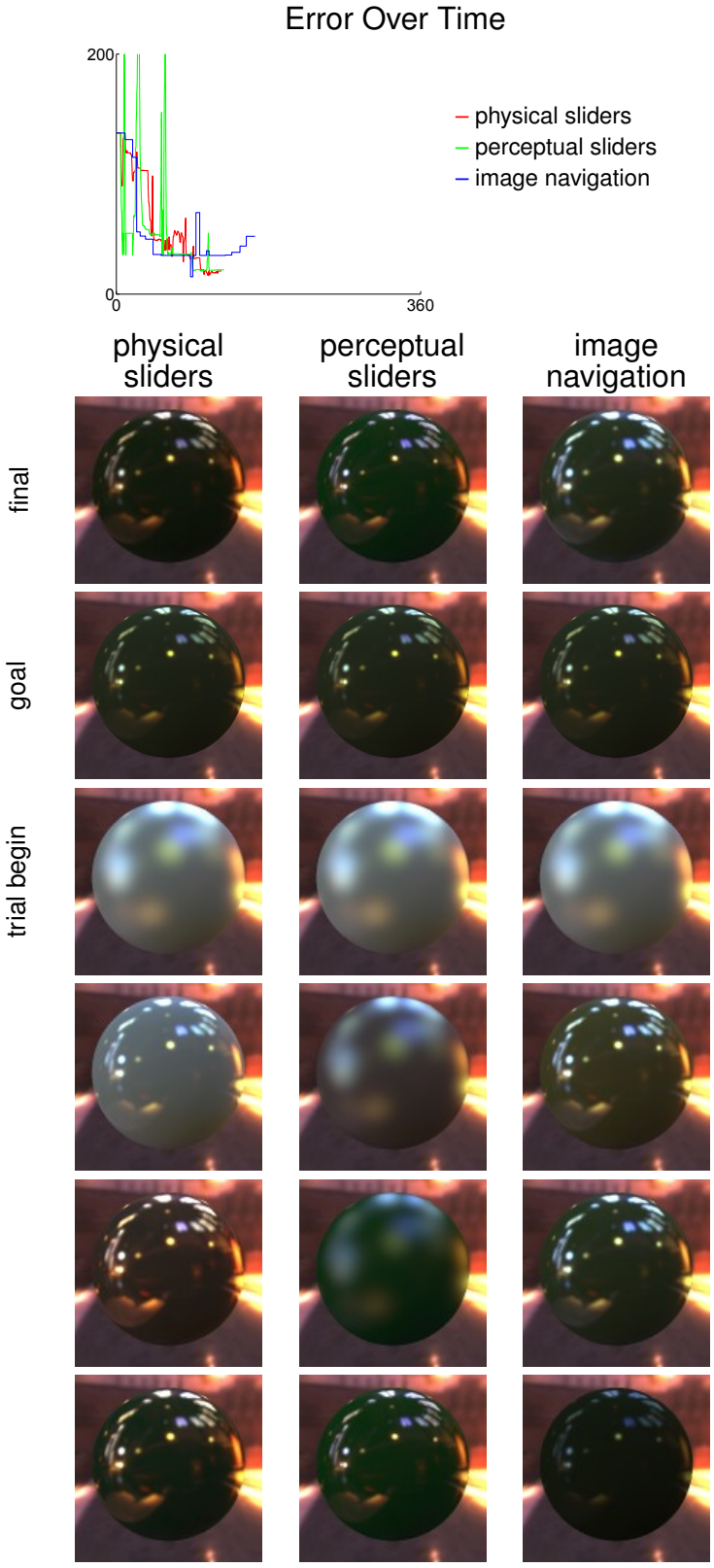
physical sliders	perceptual sliders	image navigation

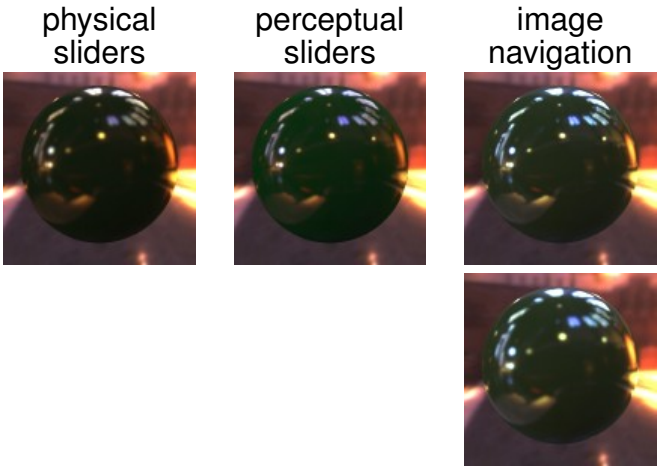
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

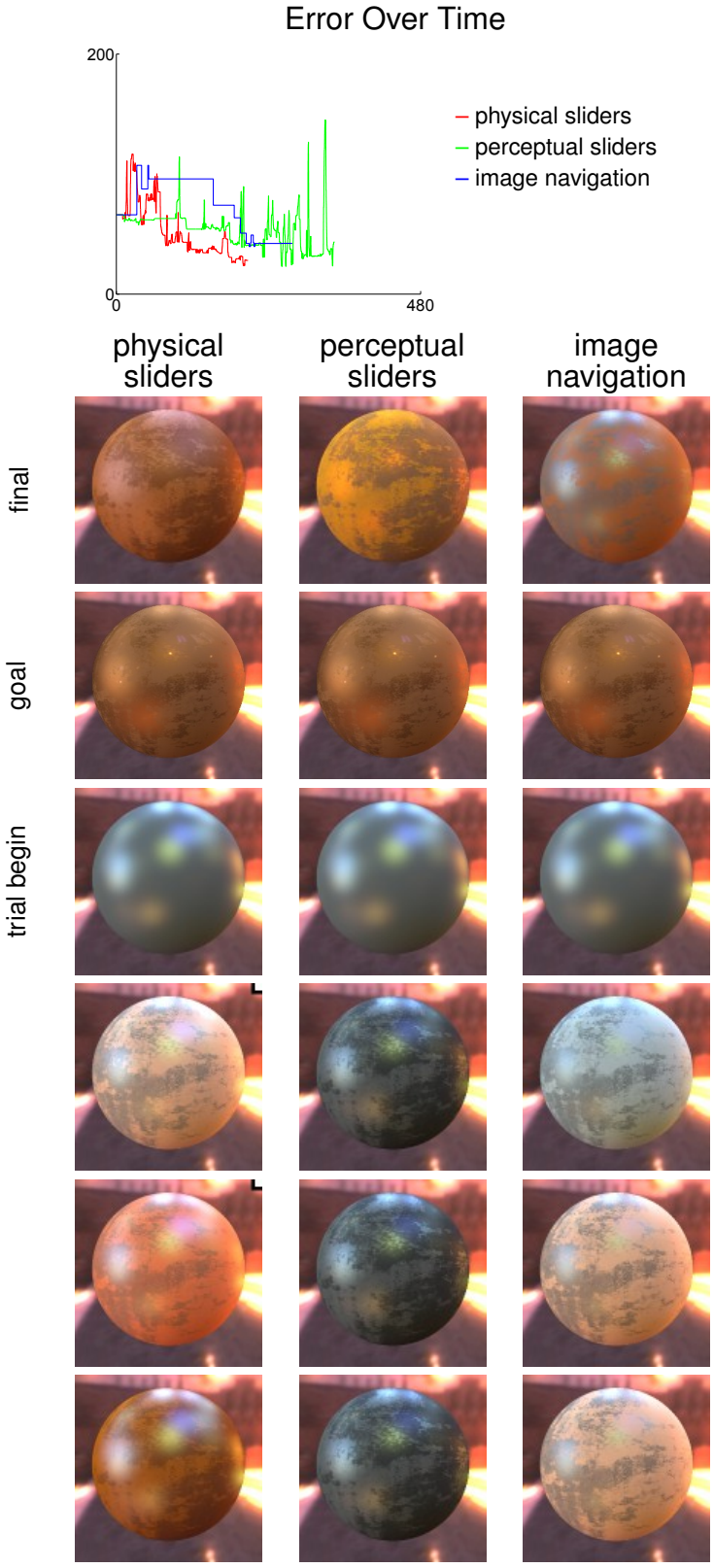

physical sliders
perceptual sliders
image navigation

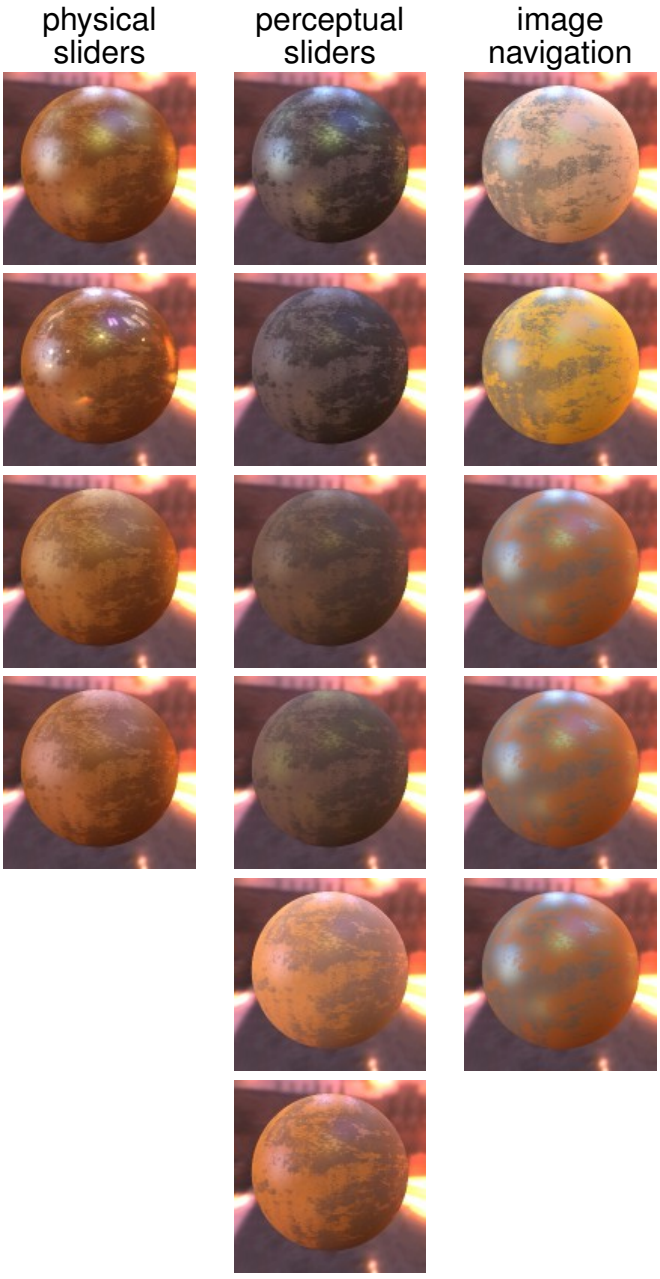
Trial 5


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 6

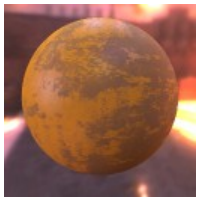

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

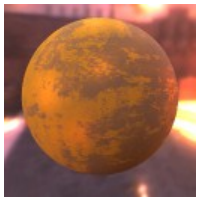

physical sliders
perceptual sliders
image navigation

physical sliders

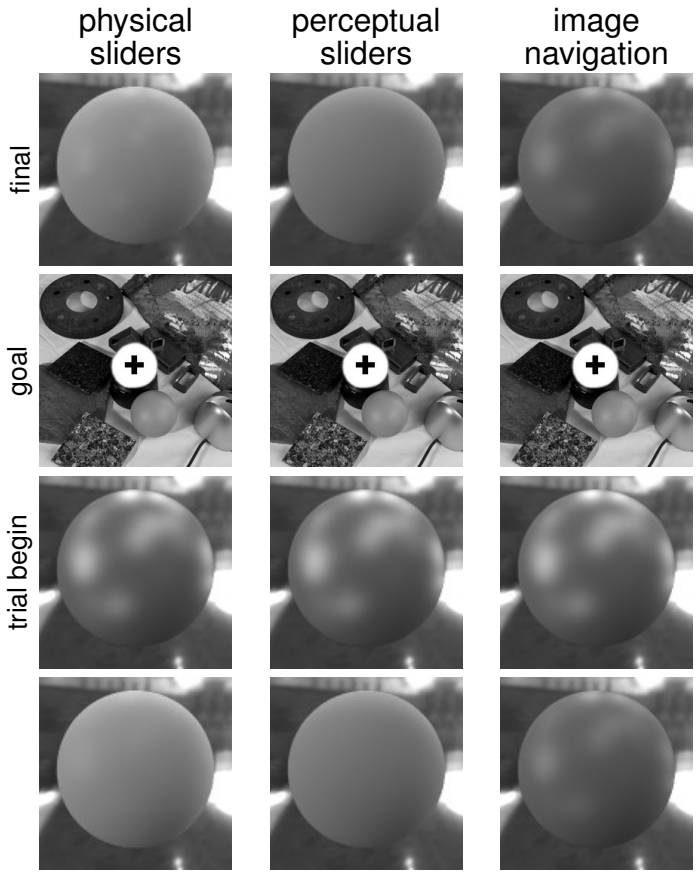
perceptual sliders

image navigation

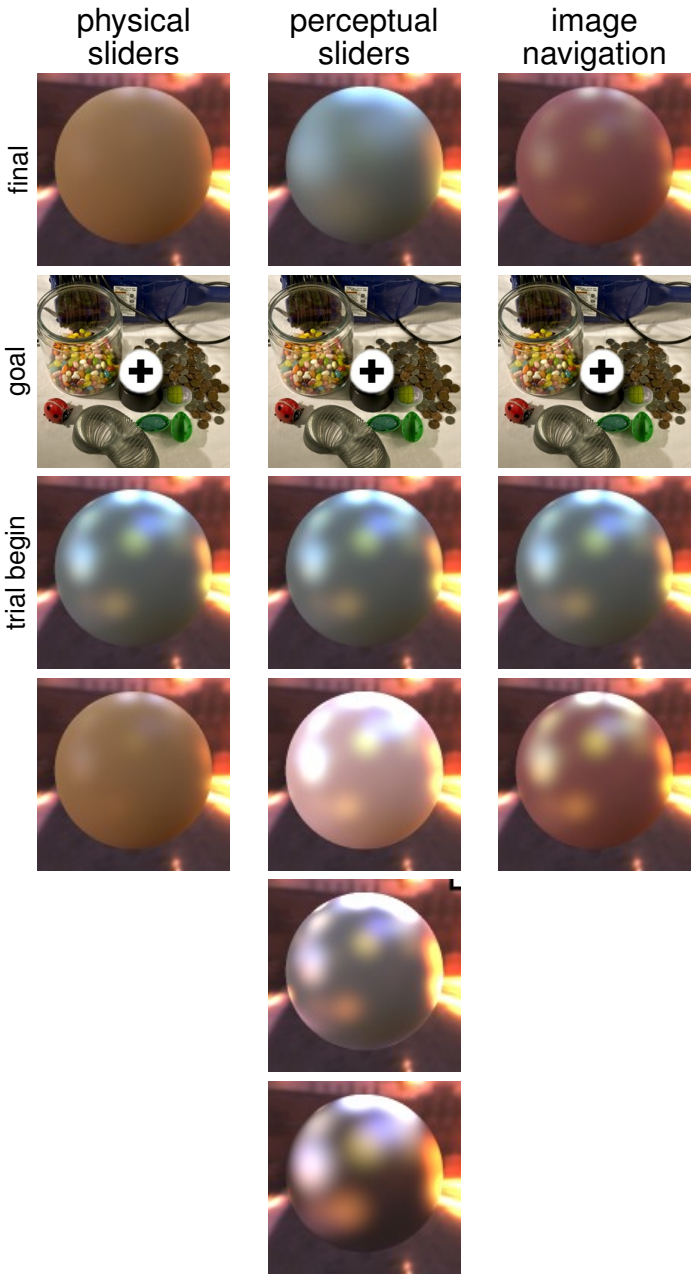




Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

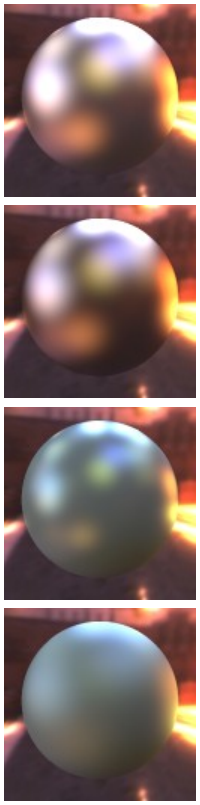
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

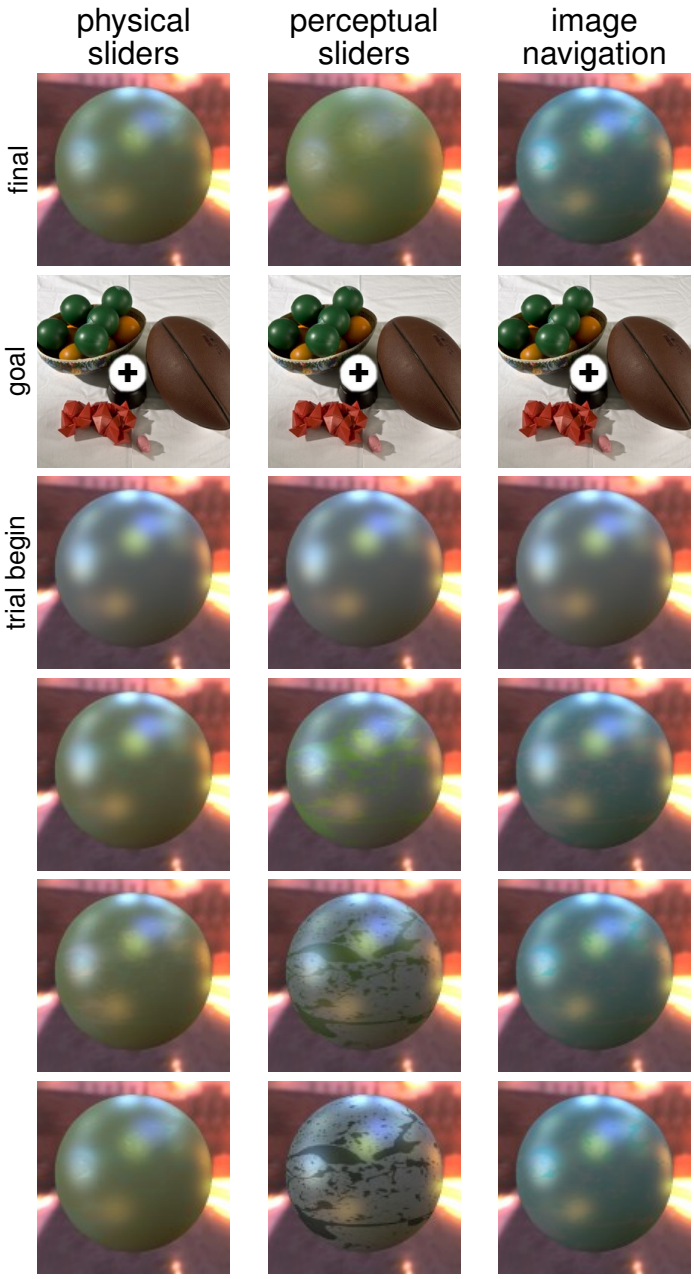
physical sliders

perceptual sliders

image navigation



Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

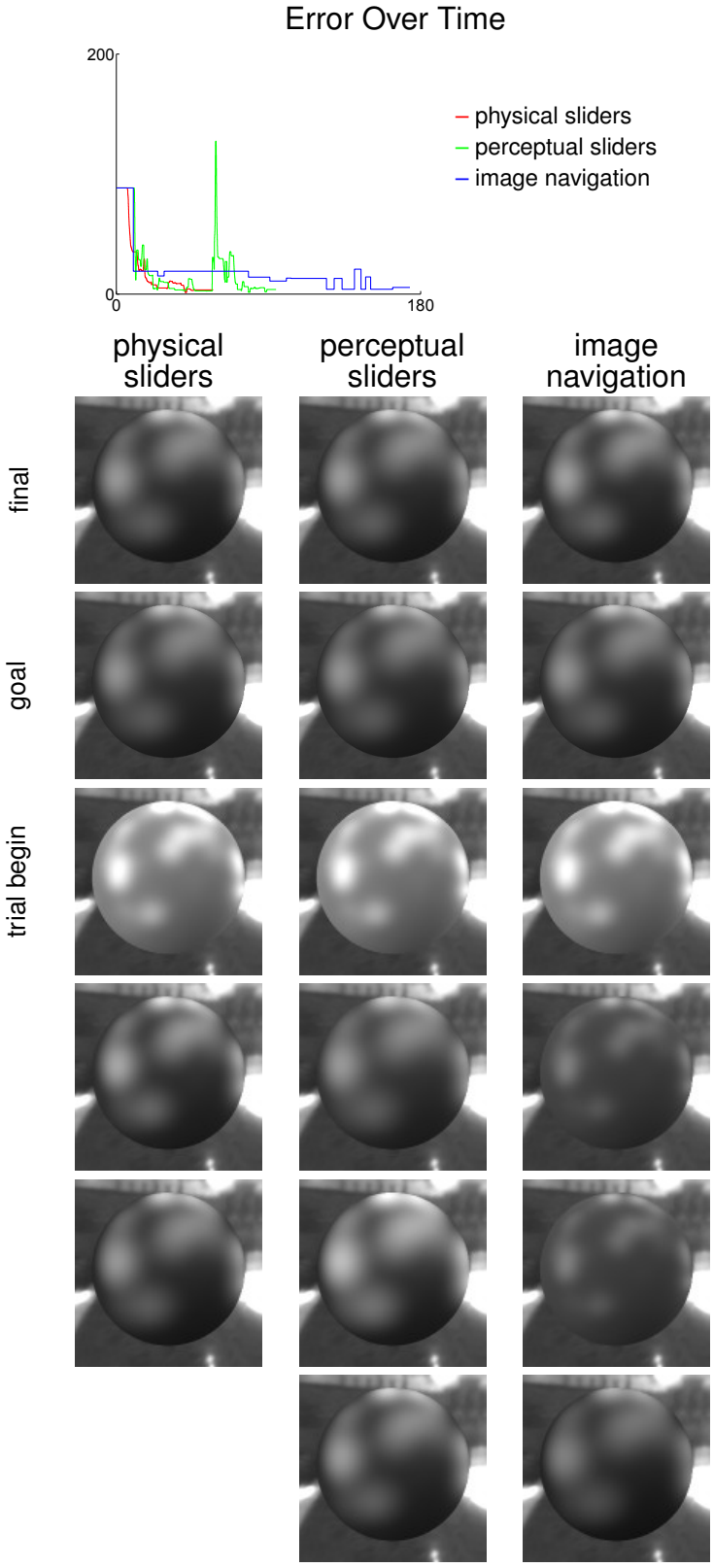
physical sliders

perceptual sliders

image navigation

Subject 12

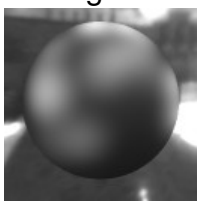
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

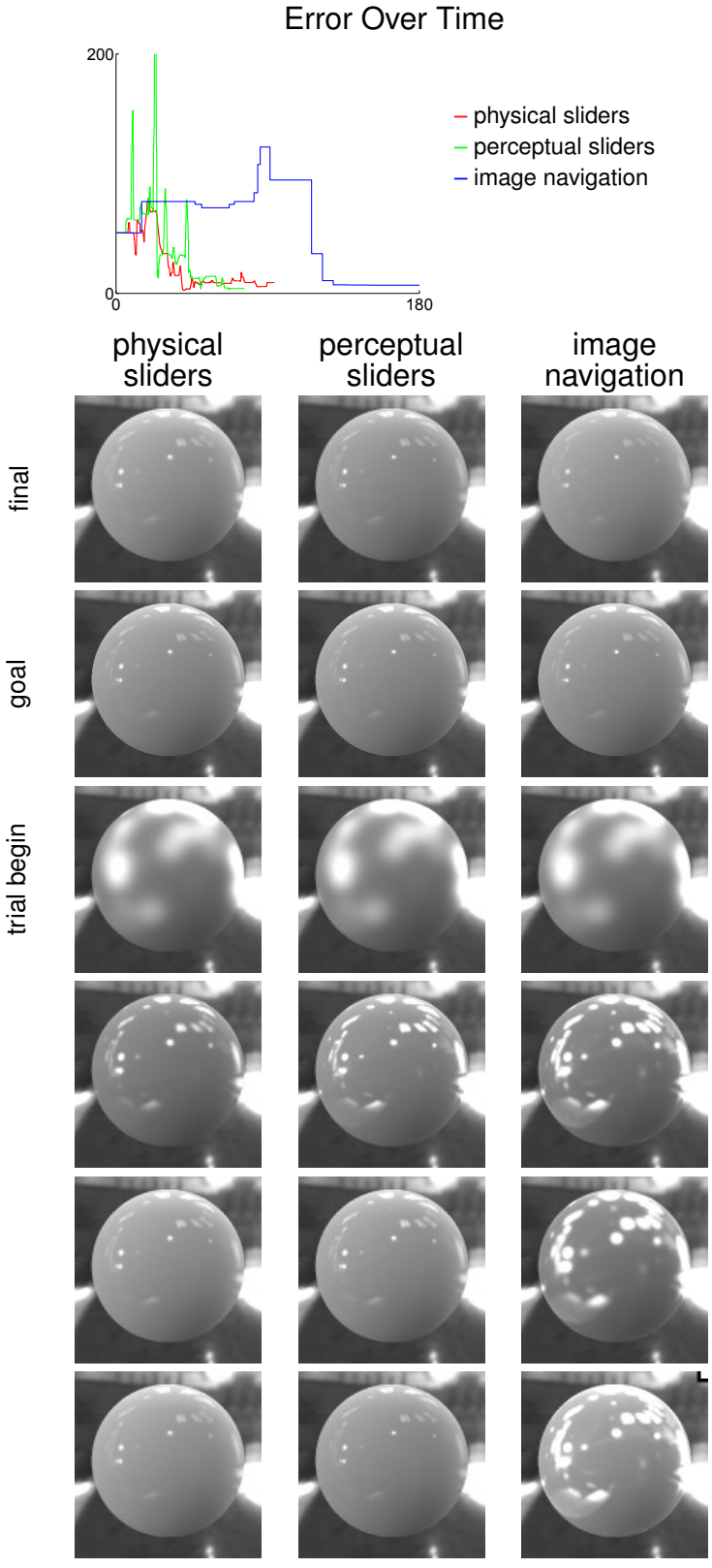
physical sliders

perceptual sliders

image navigation



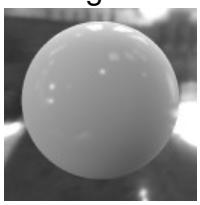
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

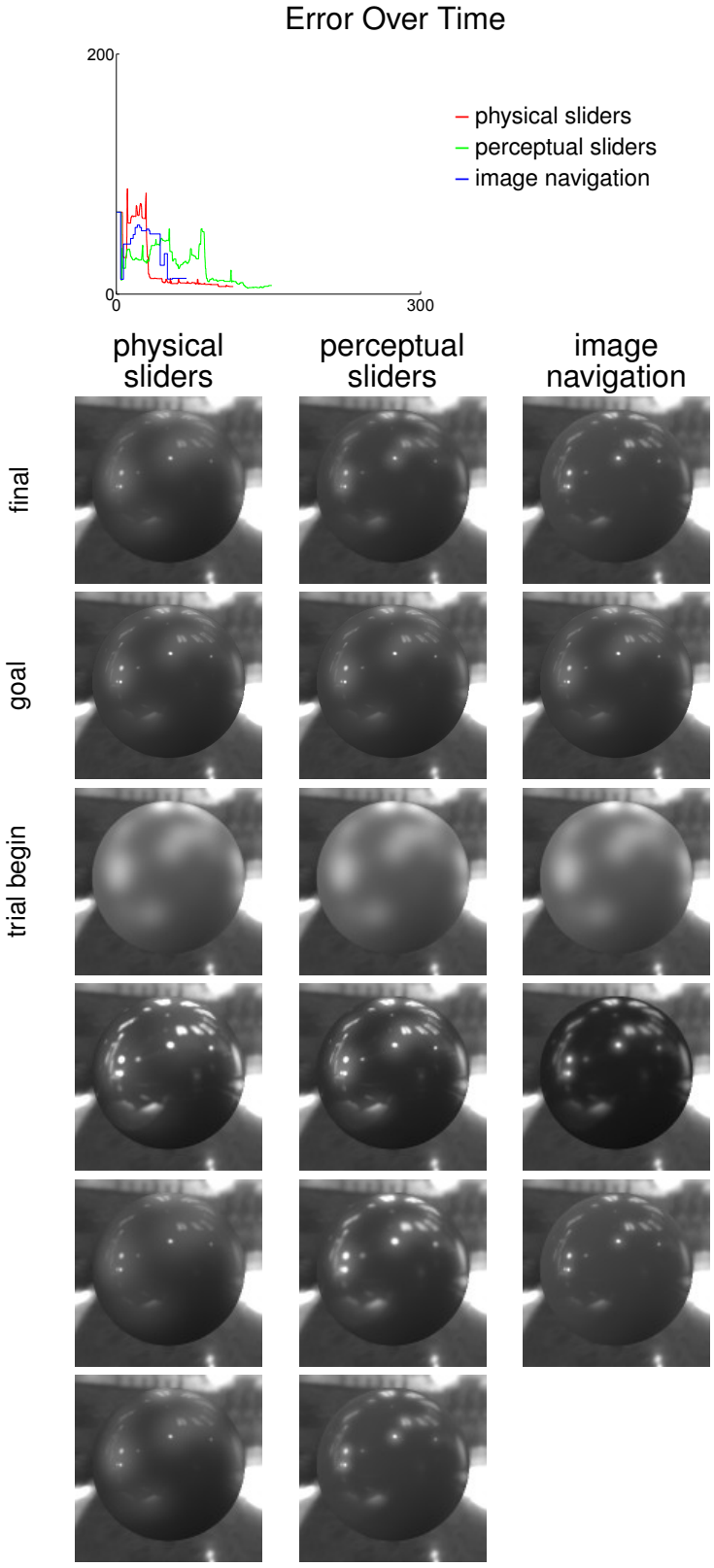
physical sliders

perceptual sliders

image navigation



Trial 3

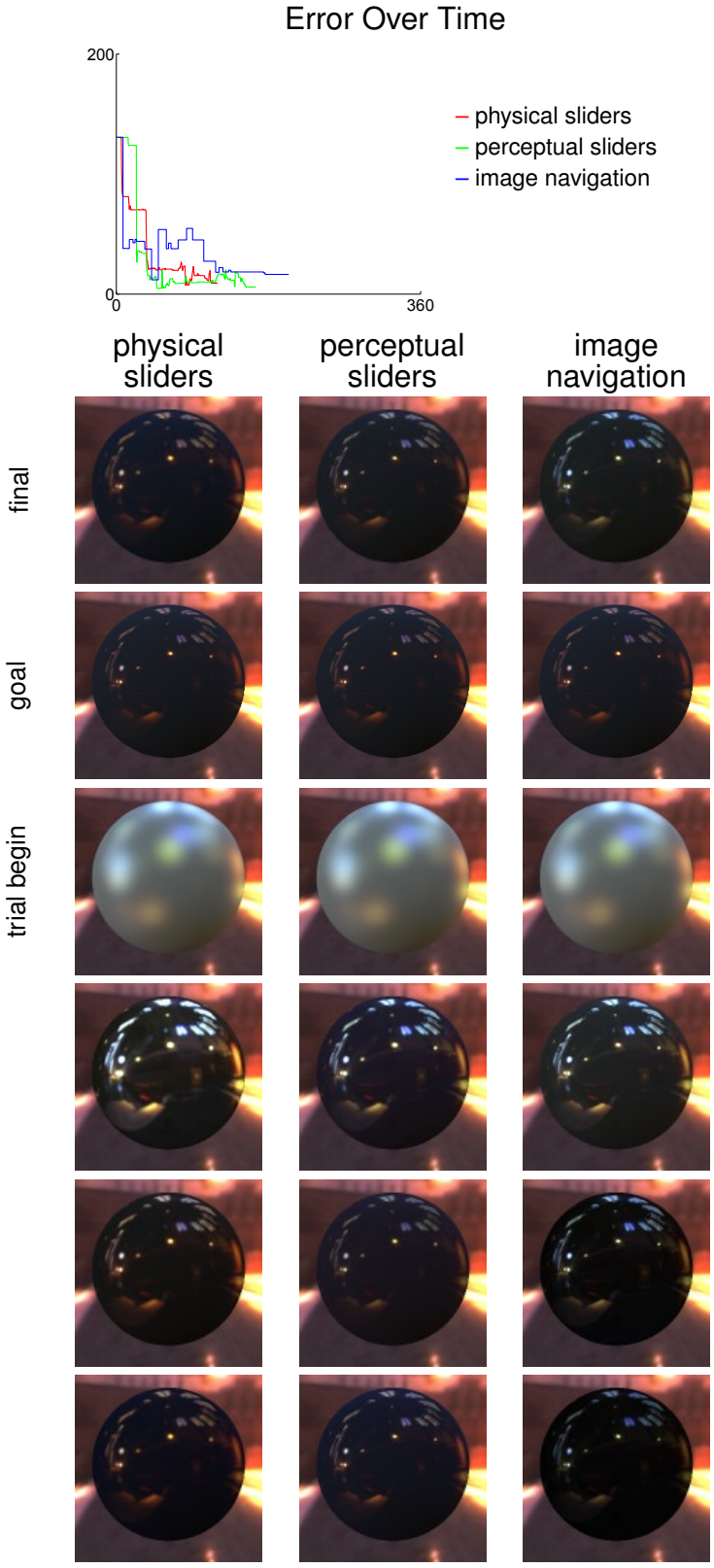

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

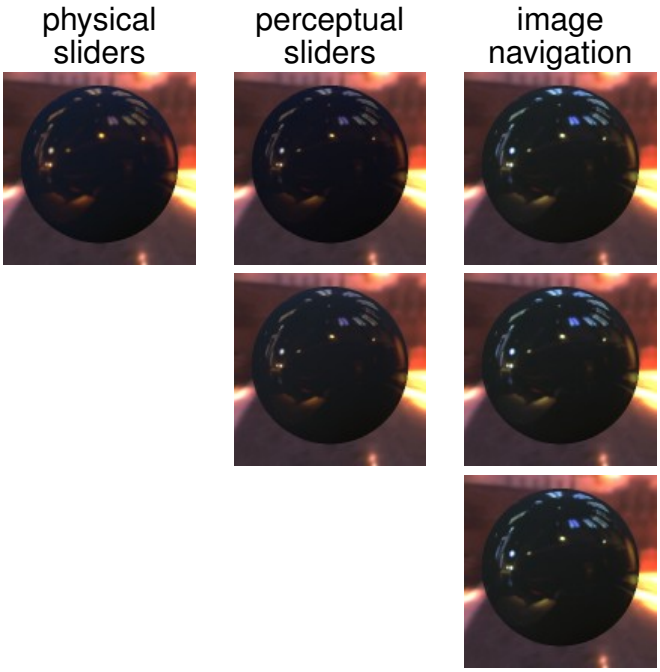
physical sliders

perceptual sliders

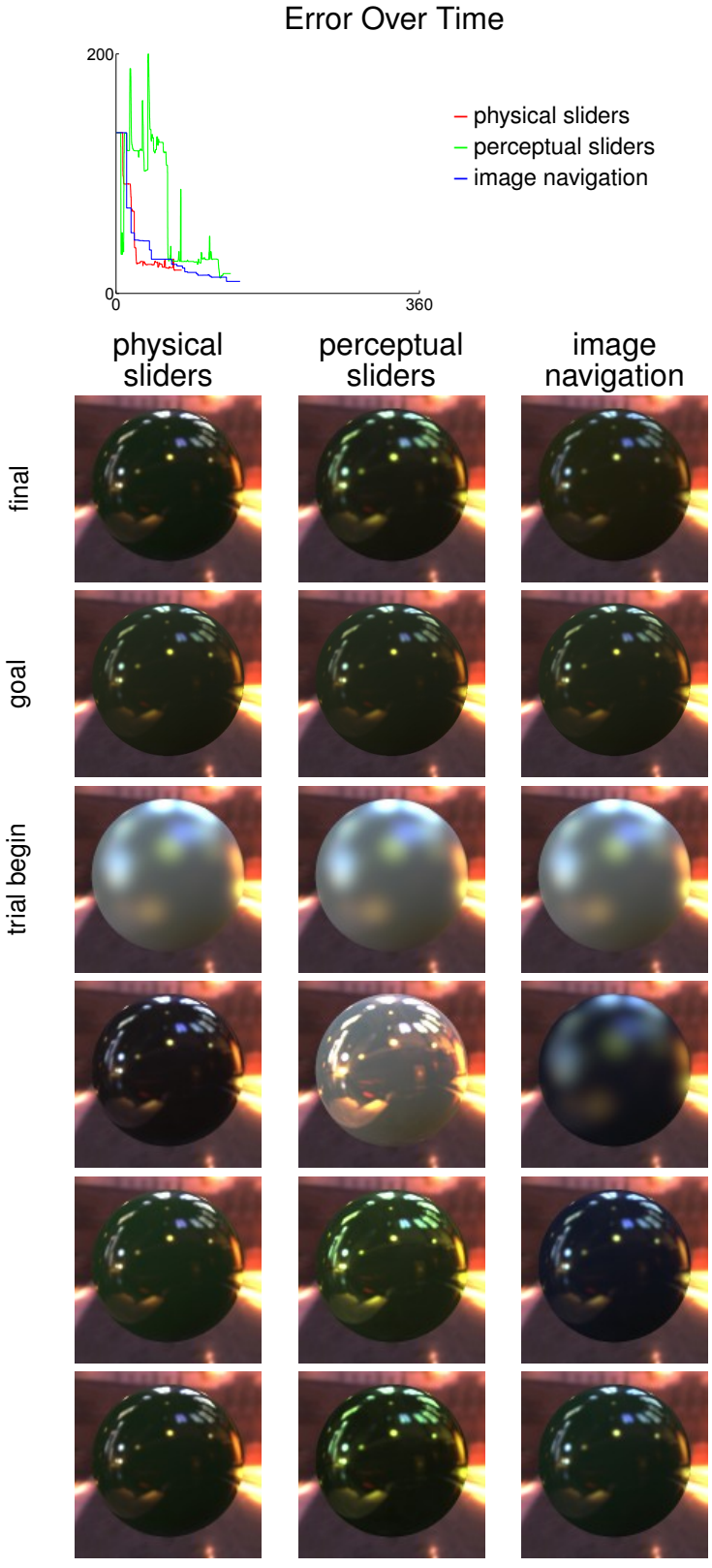
image navigation

Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

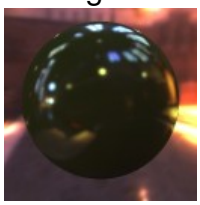
Trial 5


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

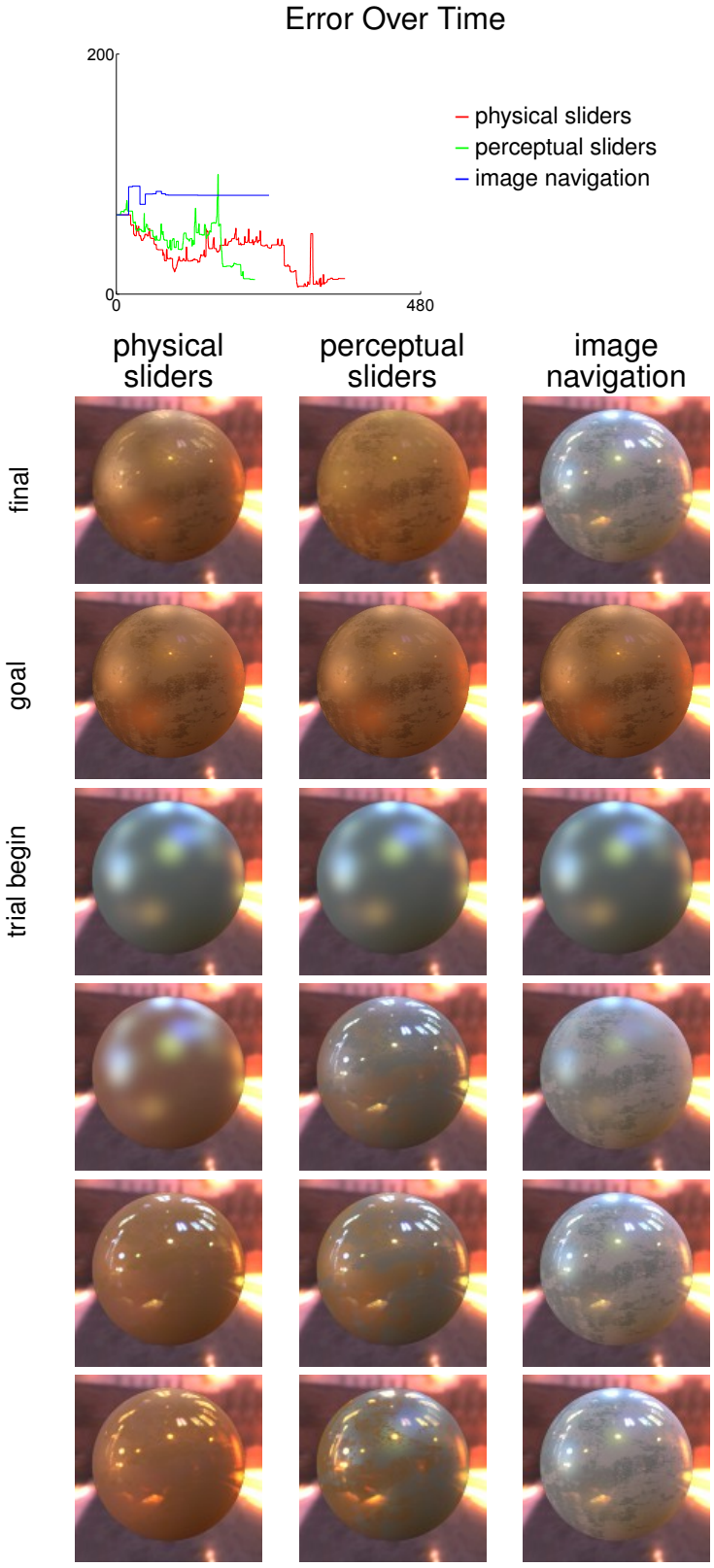
physical sliders

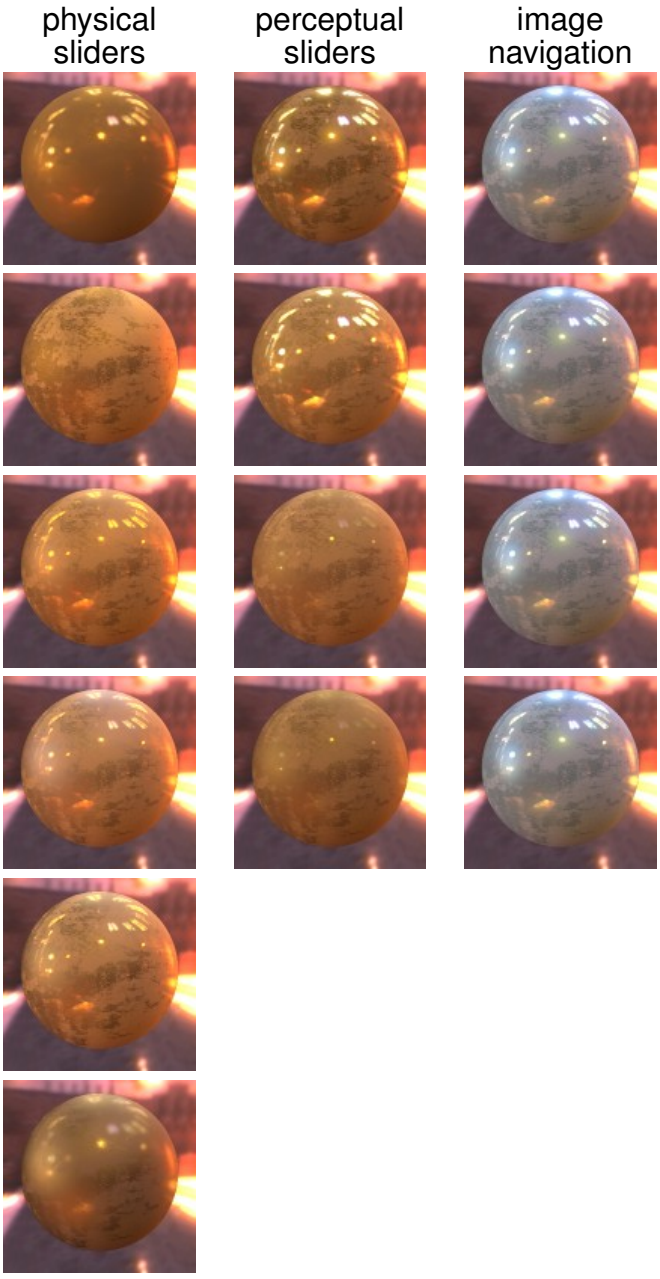
perceptual sliders

image navigation



Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

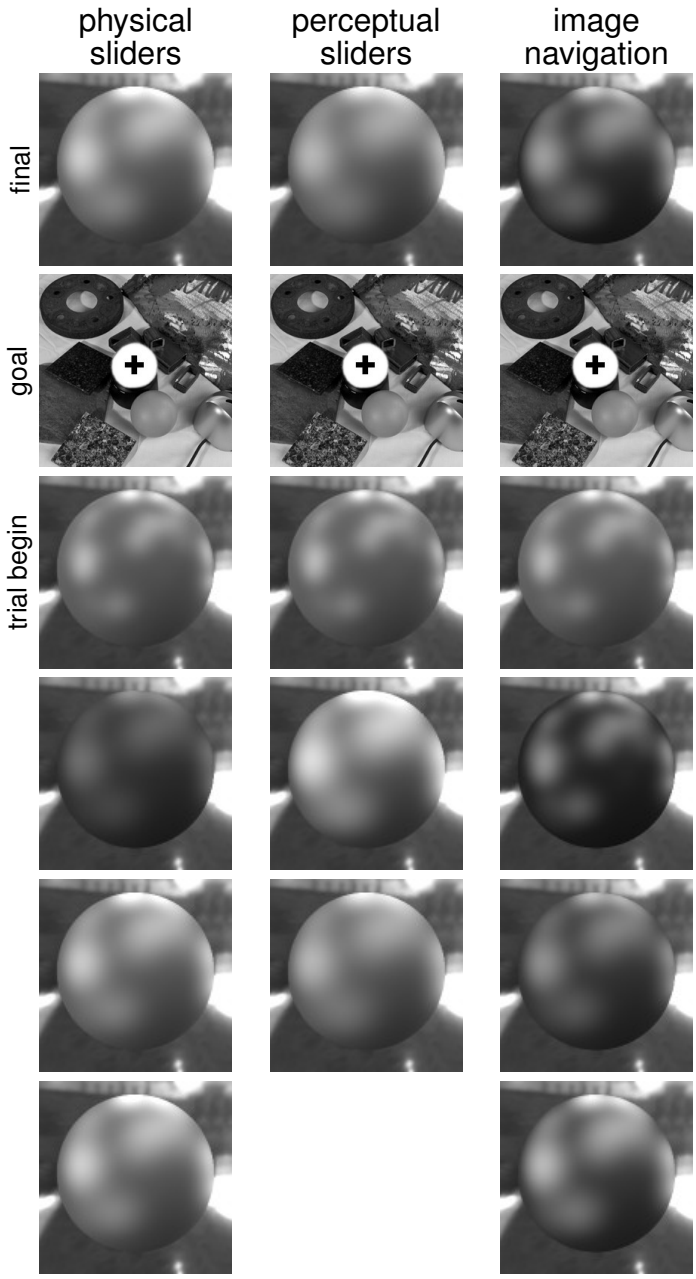

physical sliders
perceptual sliders
image navigation

physical sliders

perceptual sliders

image navigation

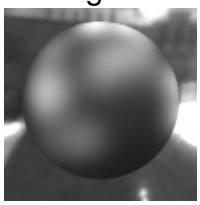
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

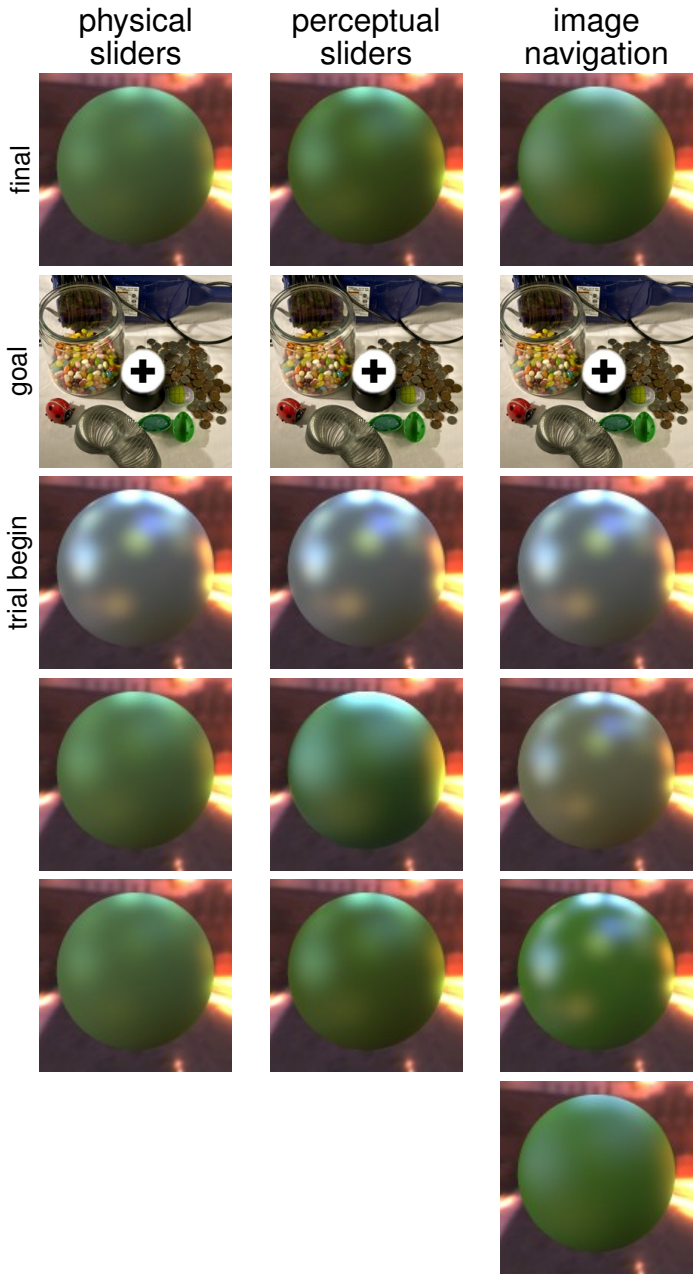
physical sliders

perceptual sliders

image navigation



Trial 8

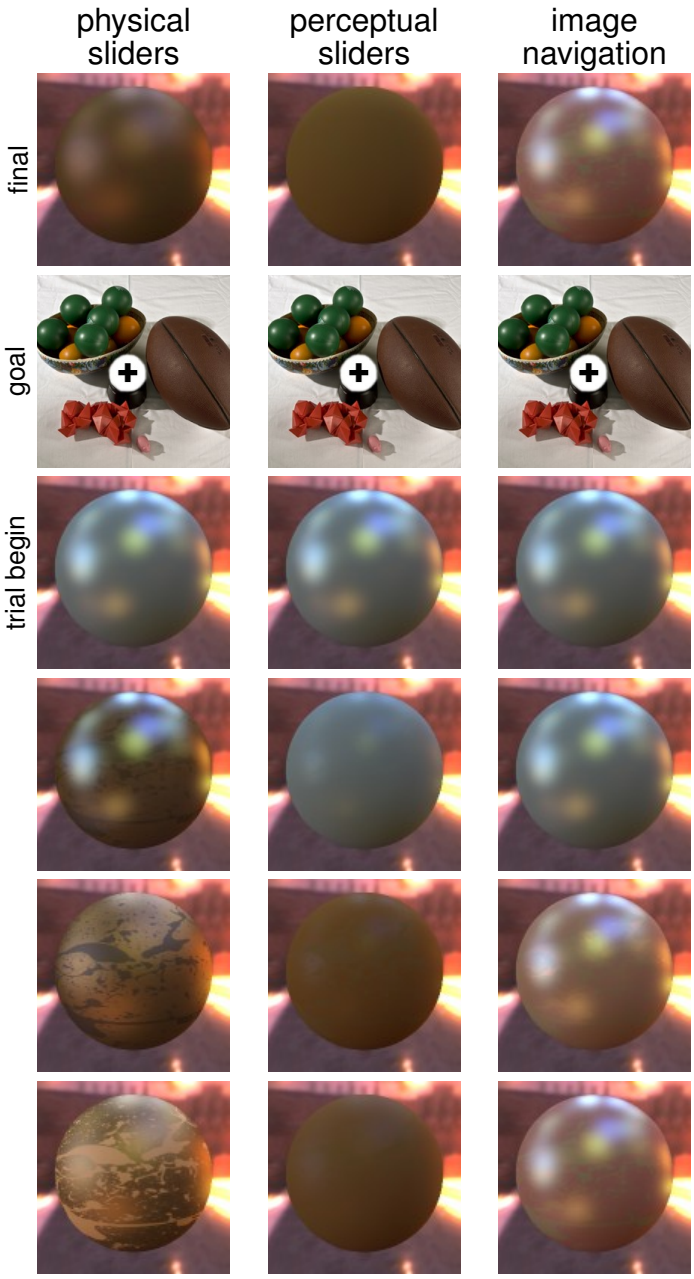

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

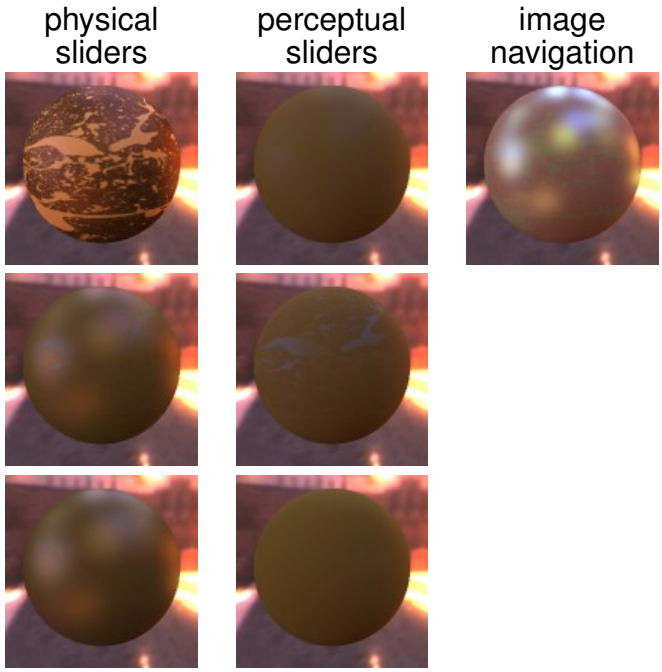
physical sliders

perceptual sliders

image navigation

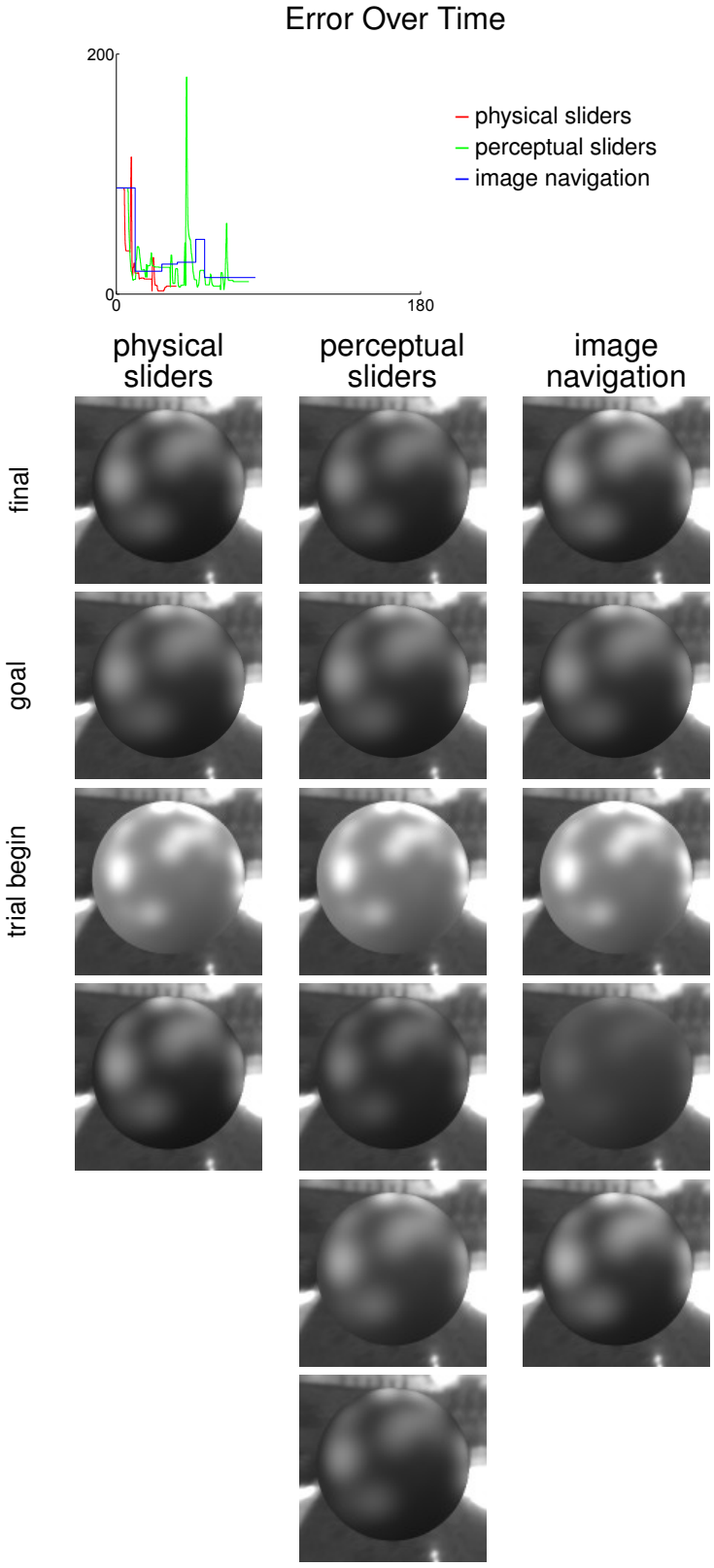
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

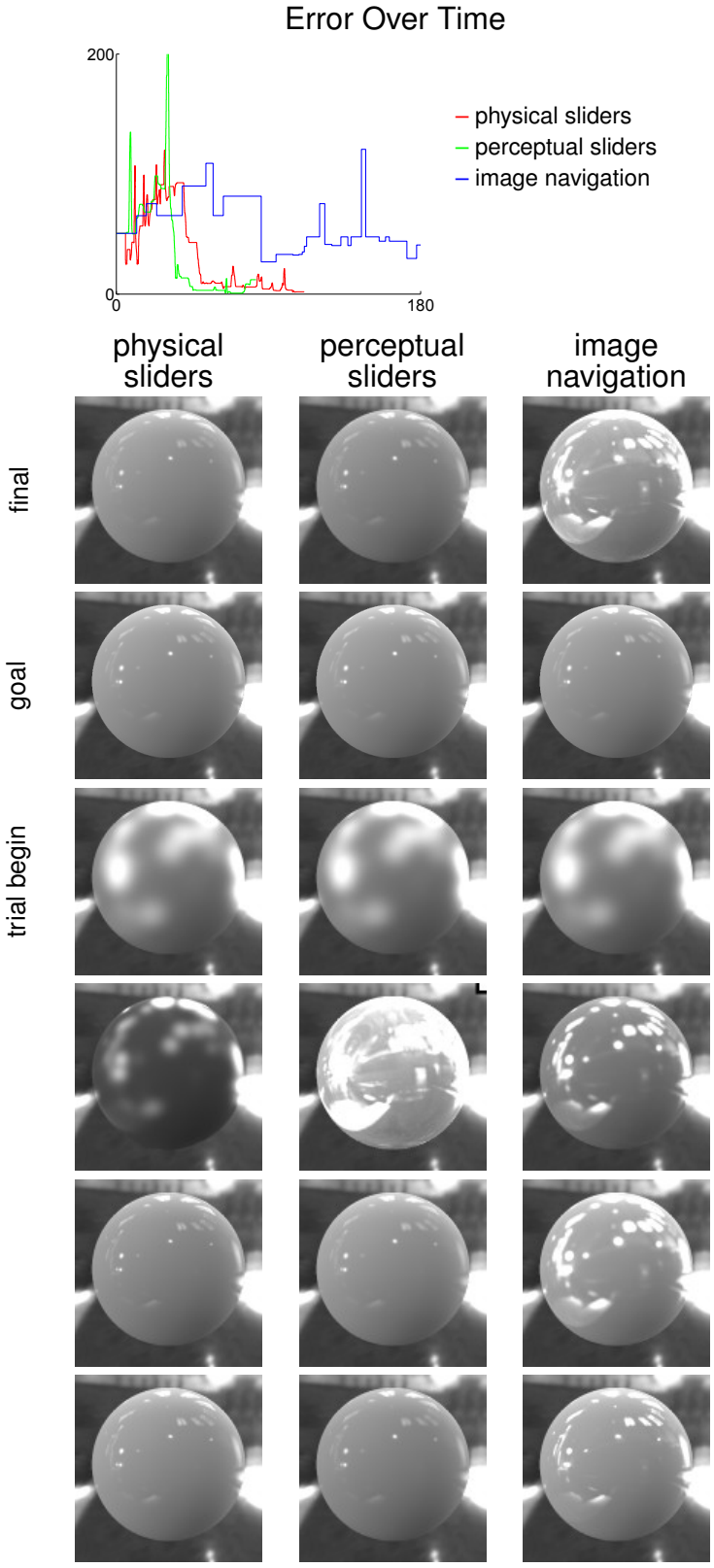

physical sliders
perceptual sliders
image navigation

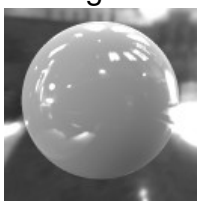
Subject 13

Trial 1

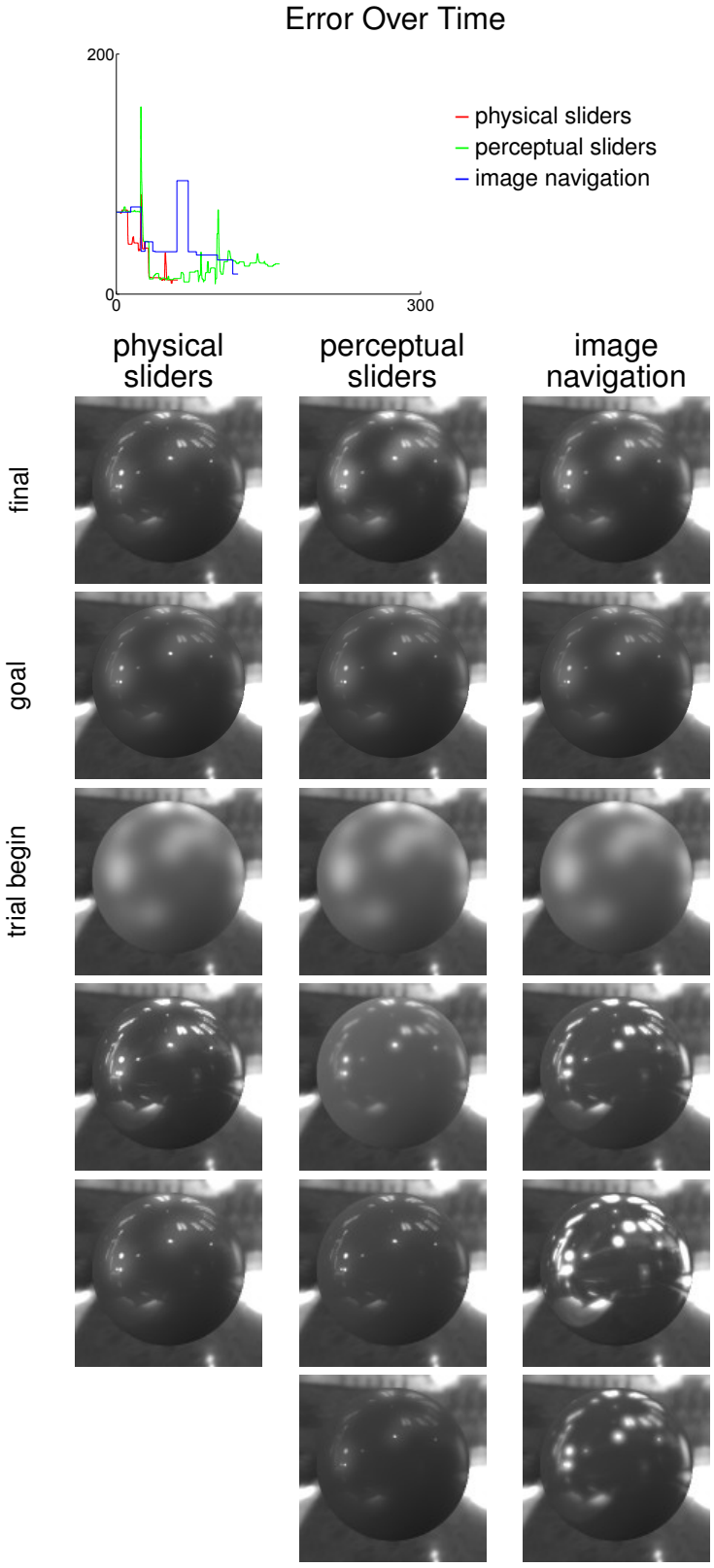

Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders	perceptual sliders	image navigation
		

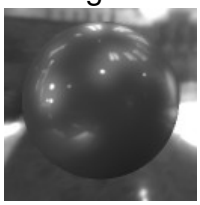
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

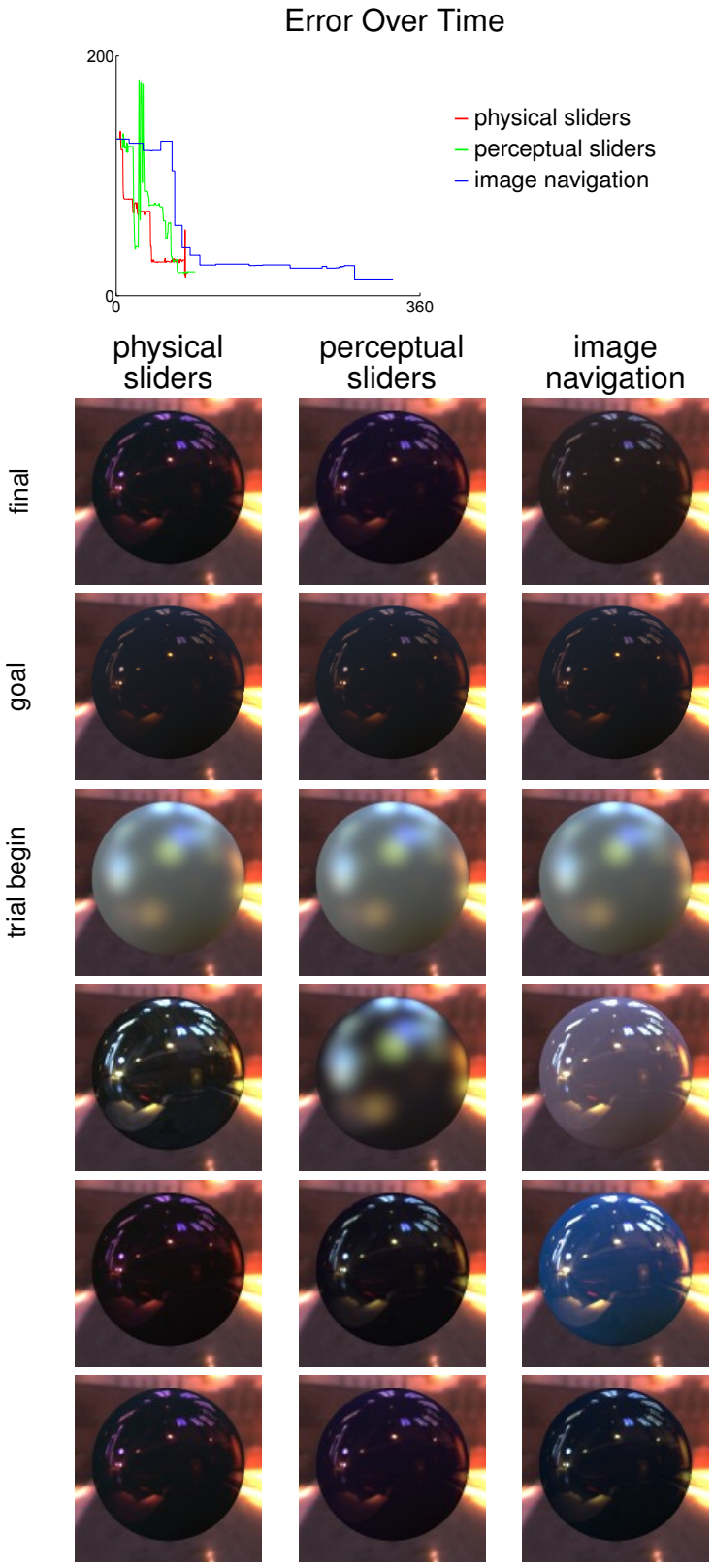
physical sliders

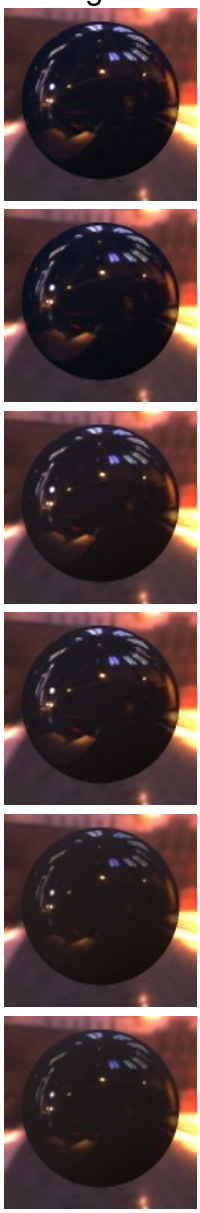
perceptual sliders

image navigation

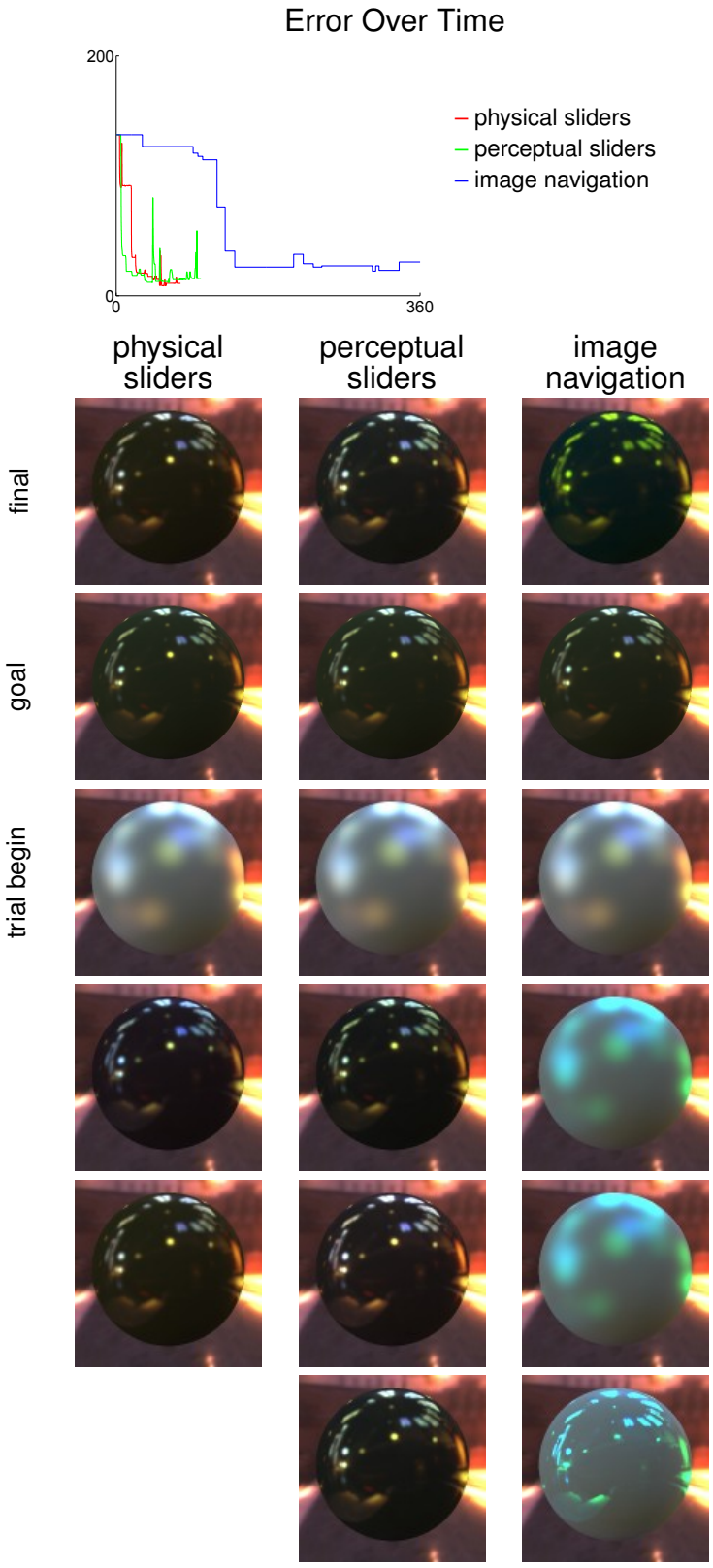


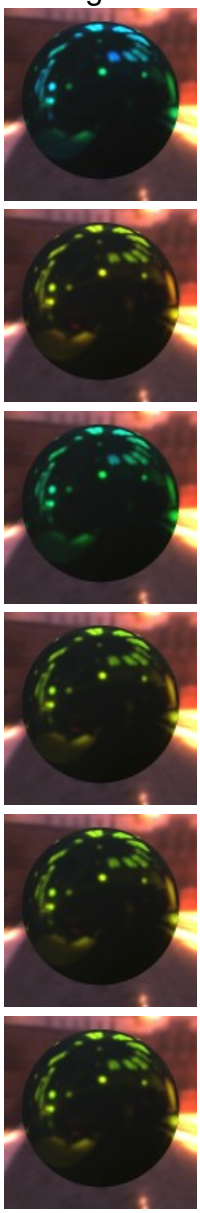
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders	perceptual sliders	image navigation
		

Trial 5

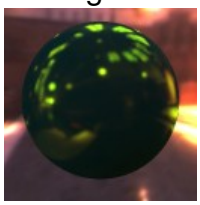

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders	perceptual sliders	image navigation
		

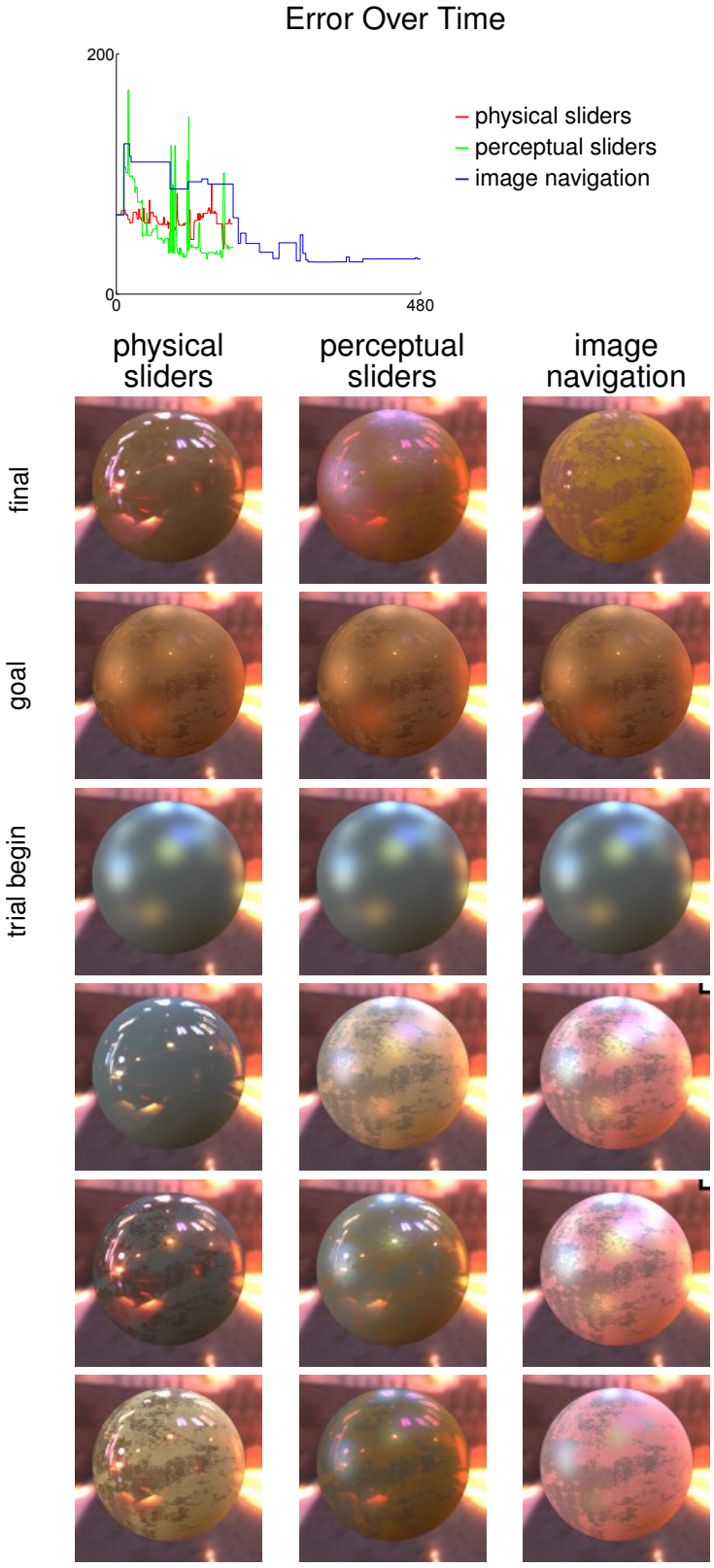
physical sliders

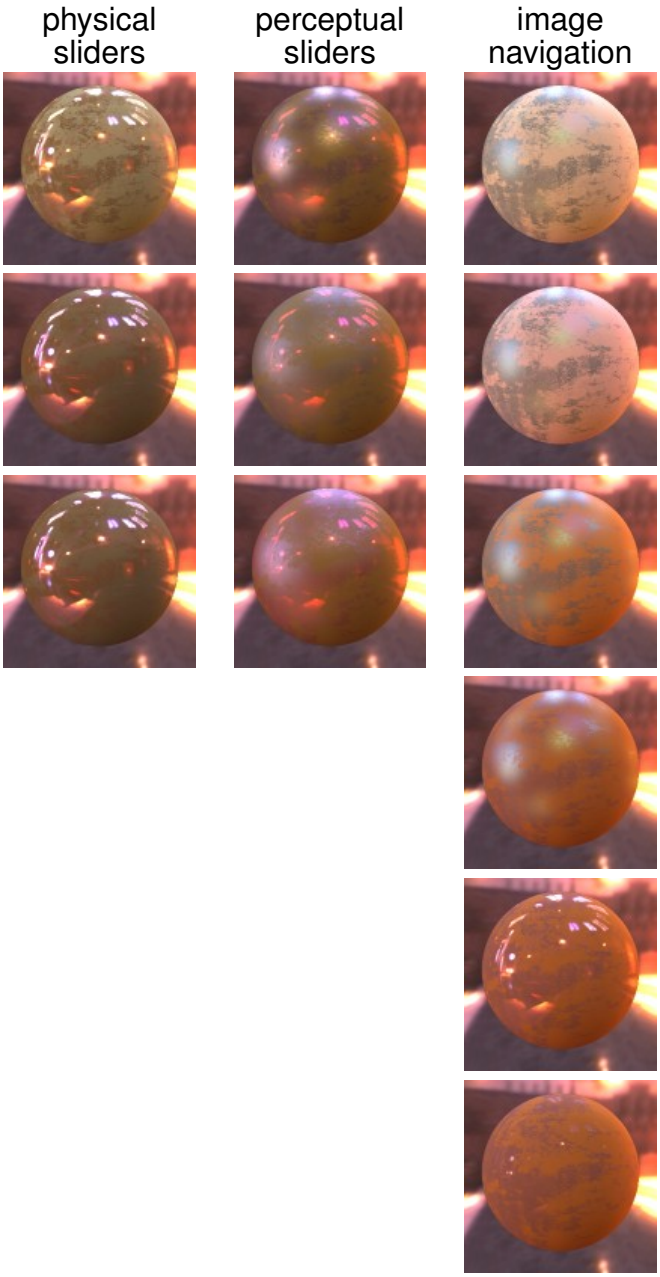
perceptual sliders

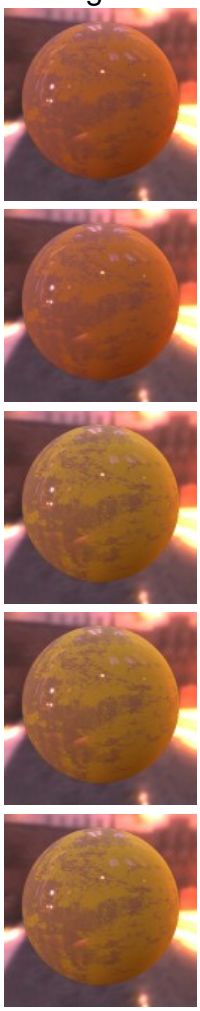
image navigation



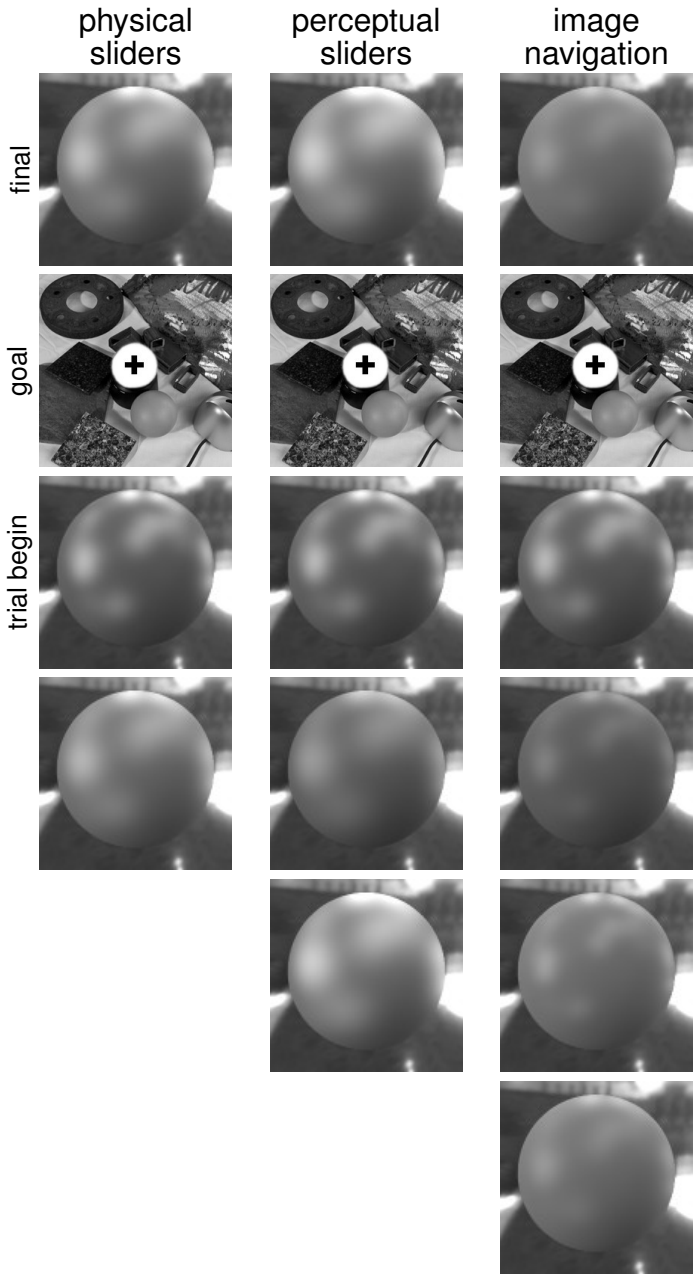
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

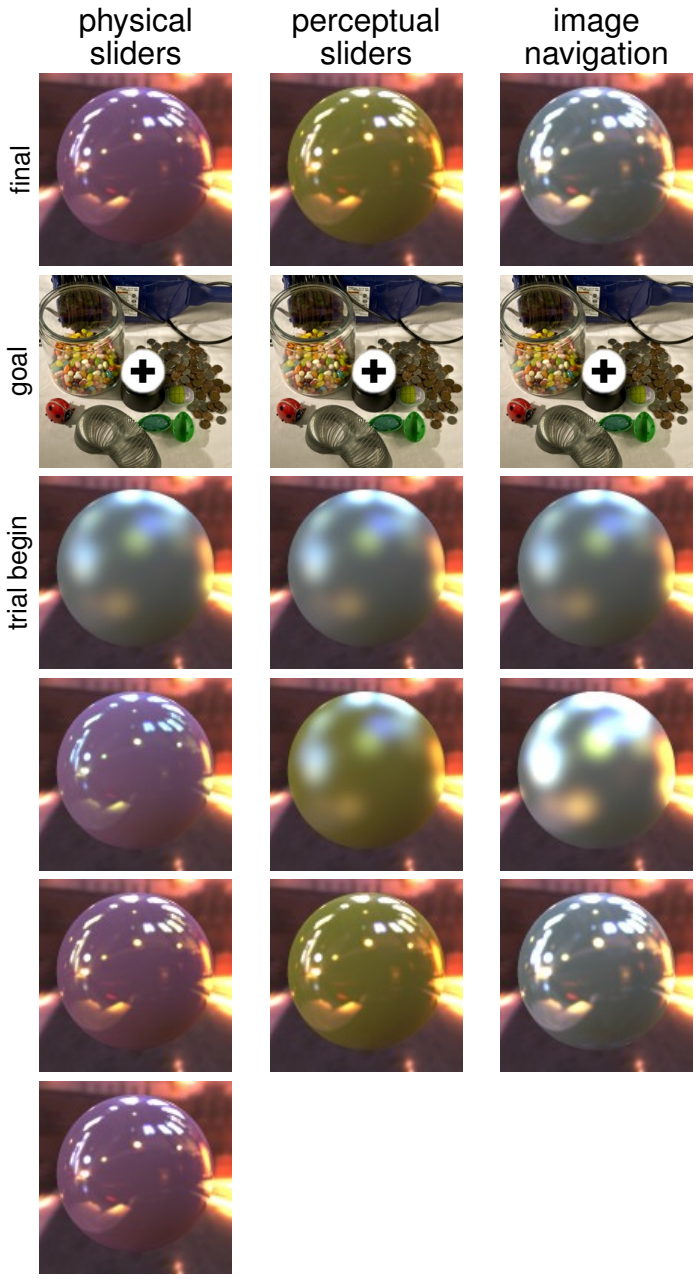

physical sliders
perceptual sliders
image navigation

physical sliders	perceptual sliders	image navigation
		

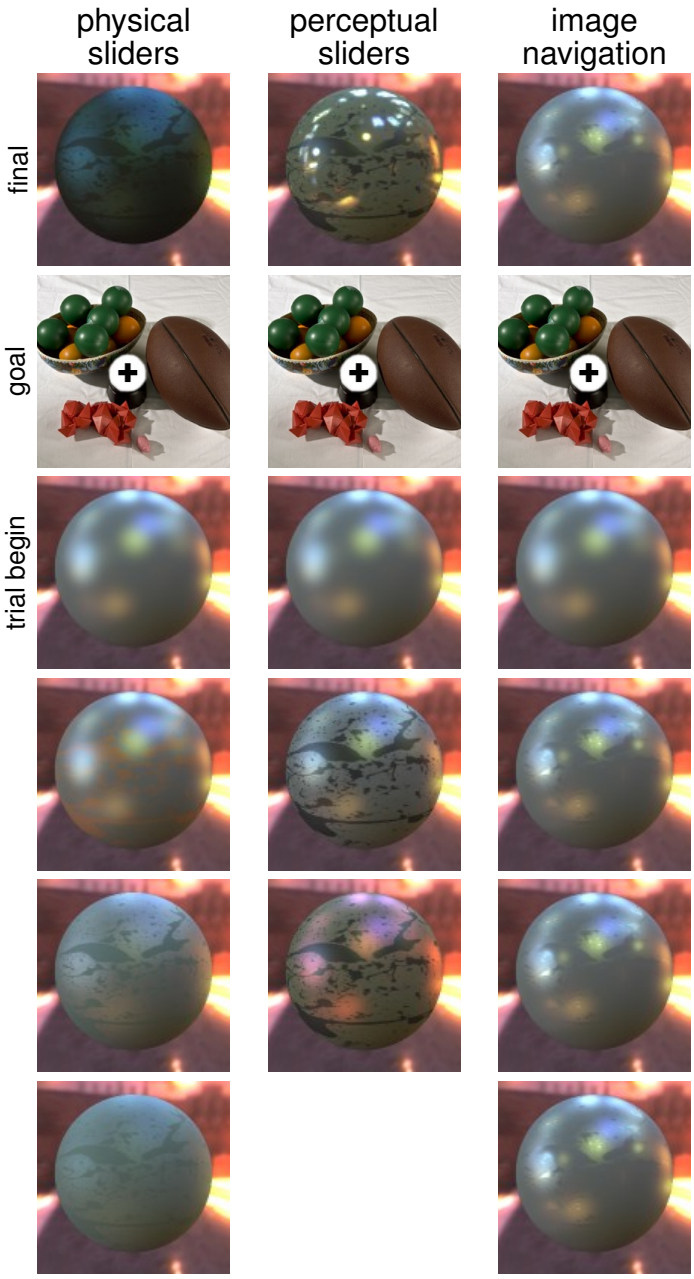
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

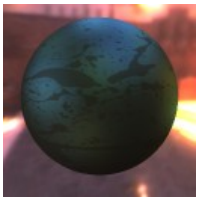
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

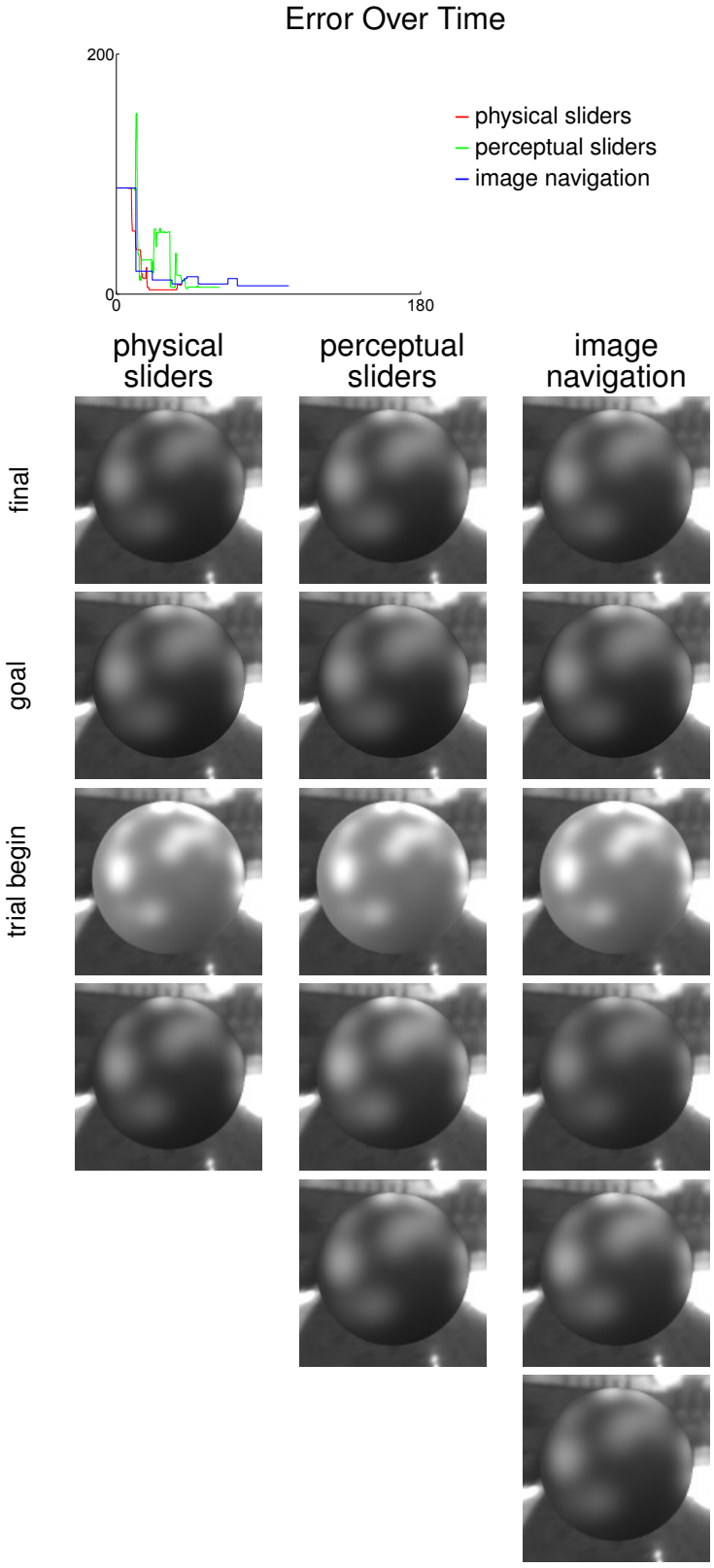
perceptual sliders

image navigation

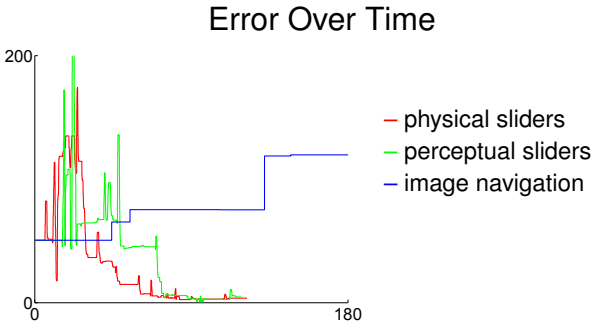


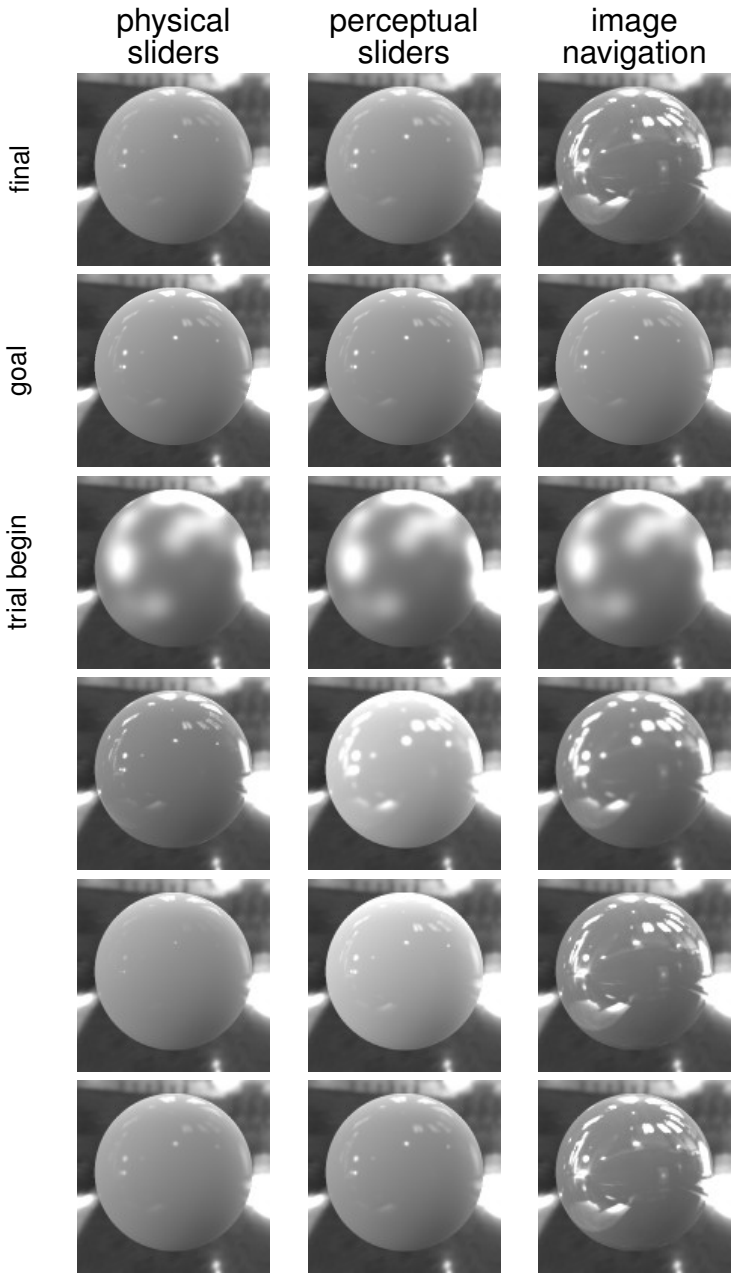
Subject 14

Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 2

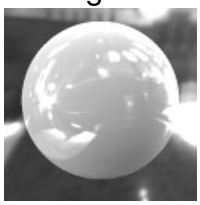

Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

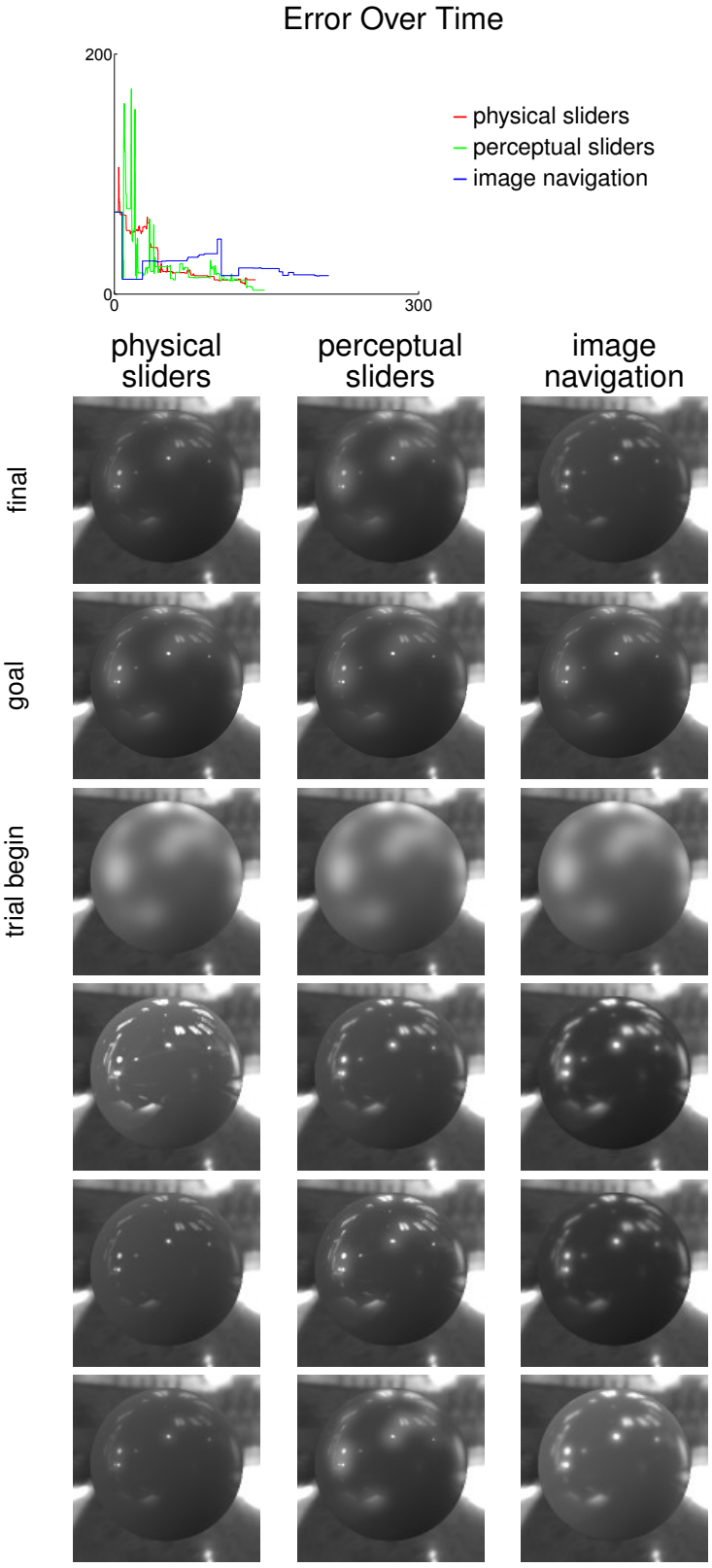
physical sliders

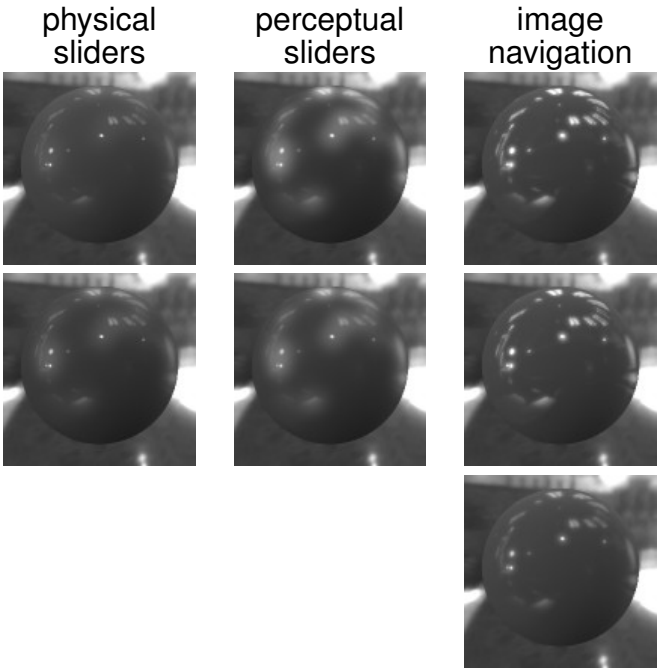
perceptual sliders

image navigation

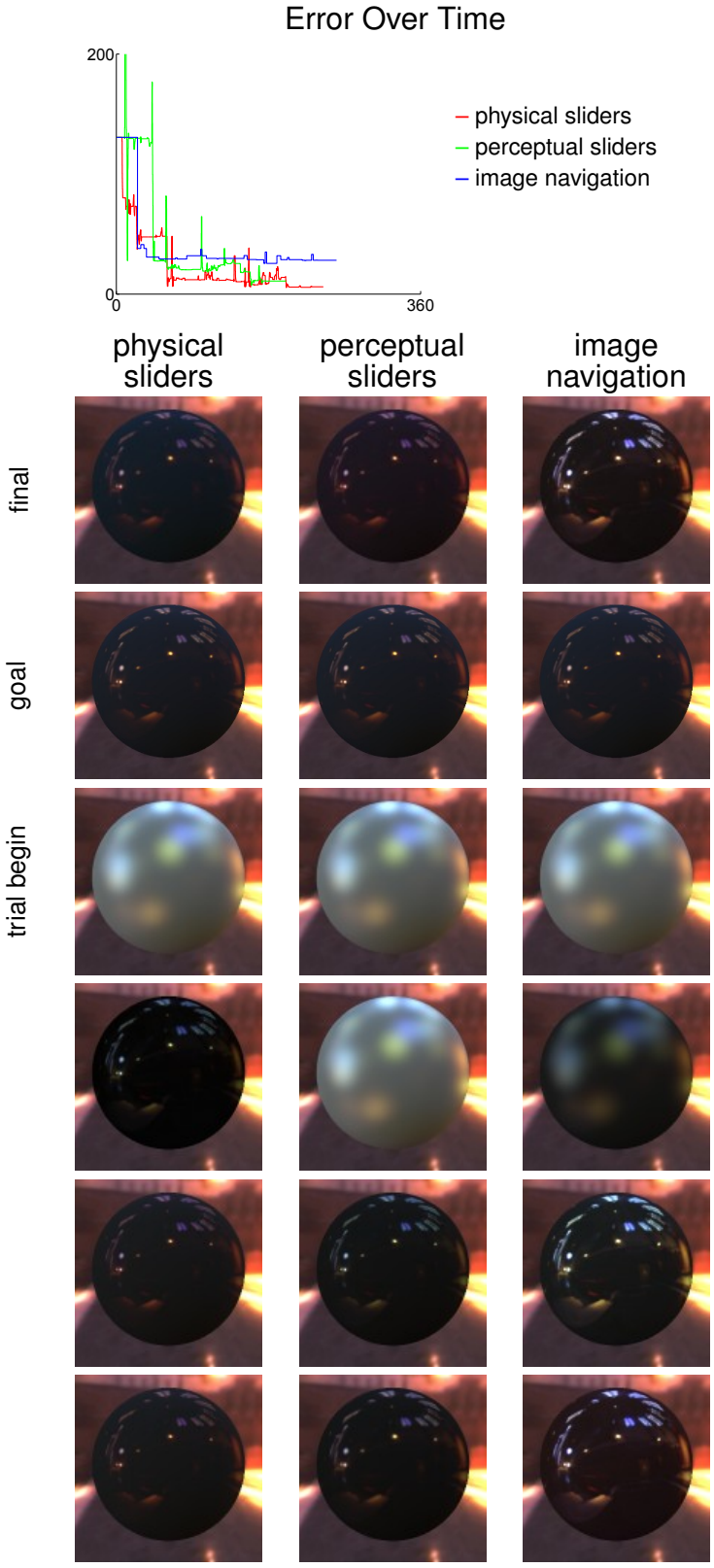


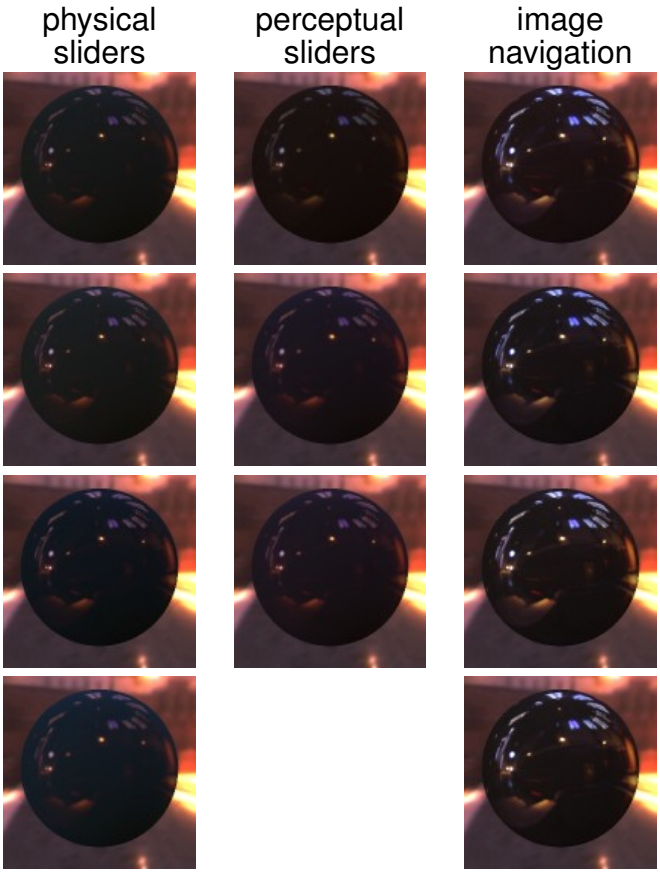
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

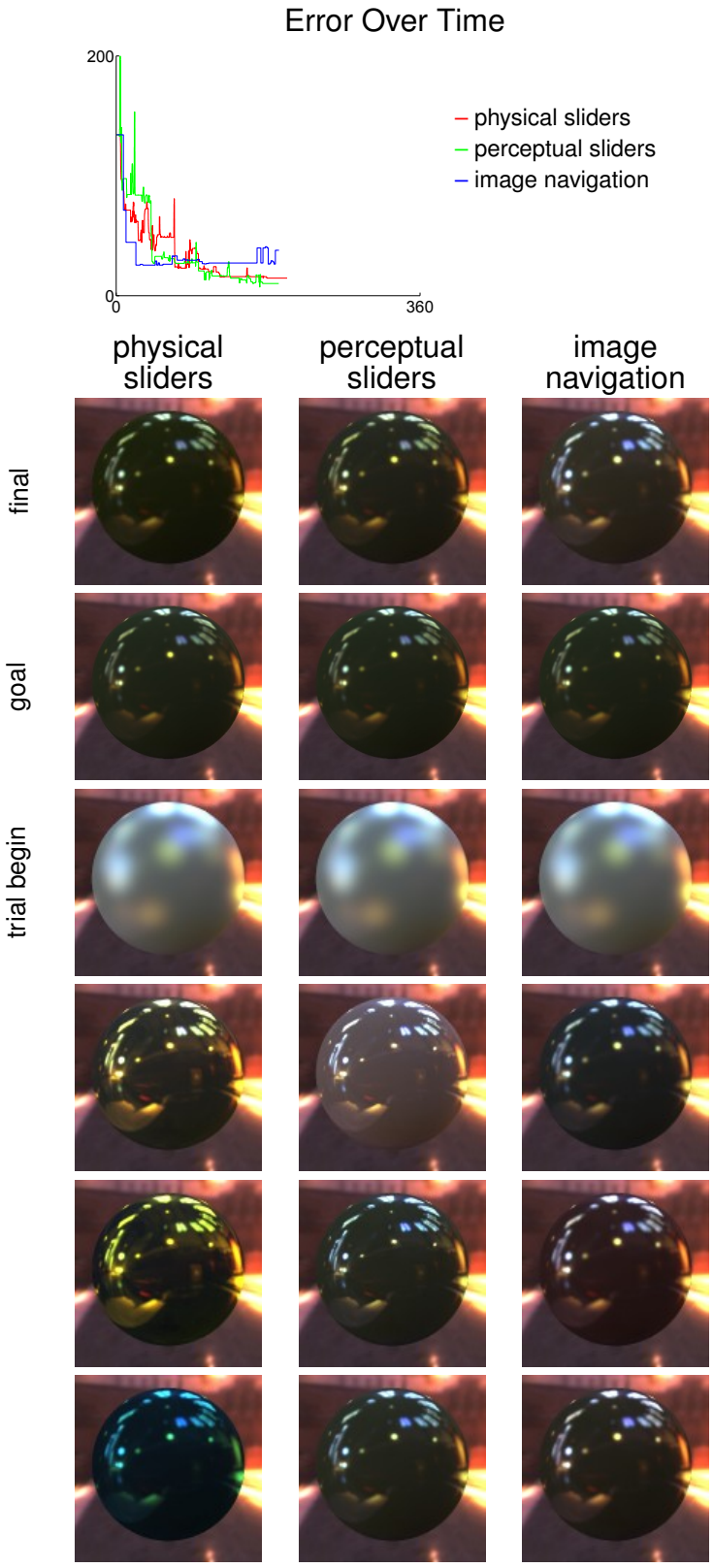

physical sliders
perceptual sliders
image navigation

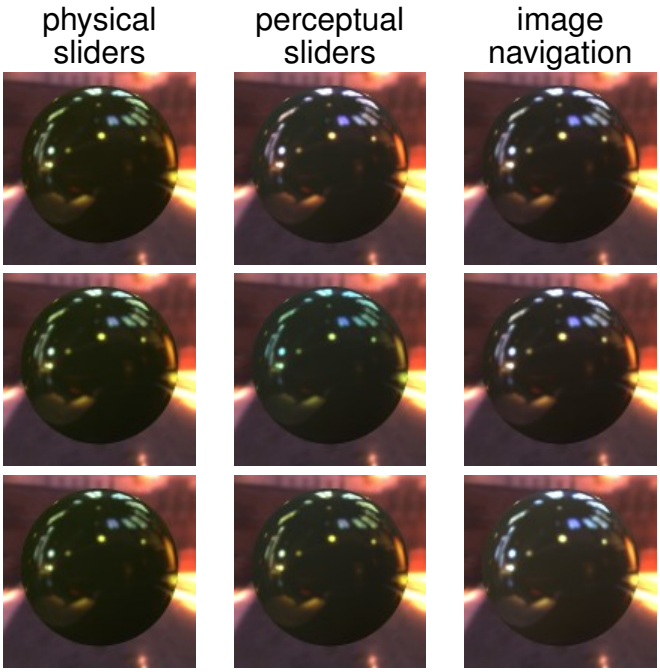
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

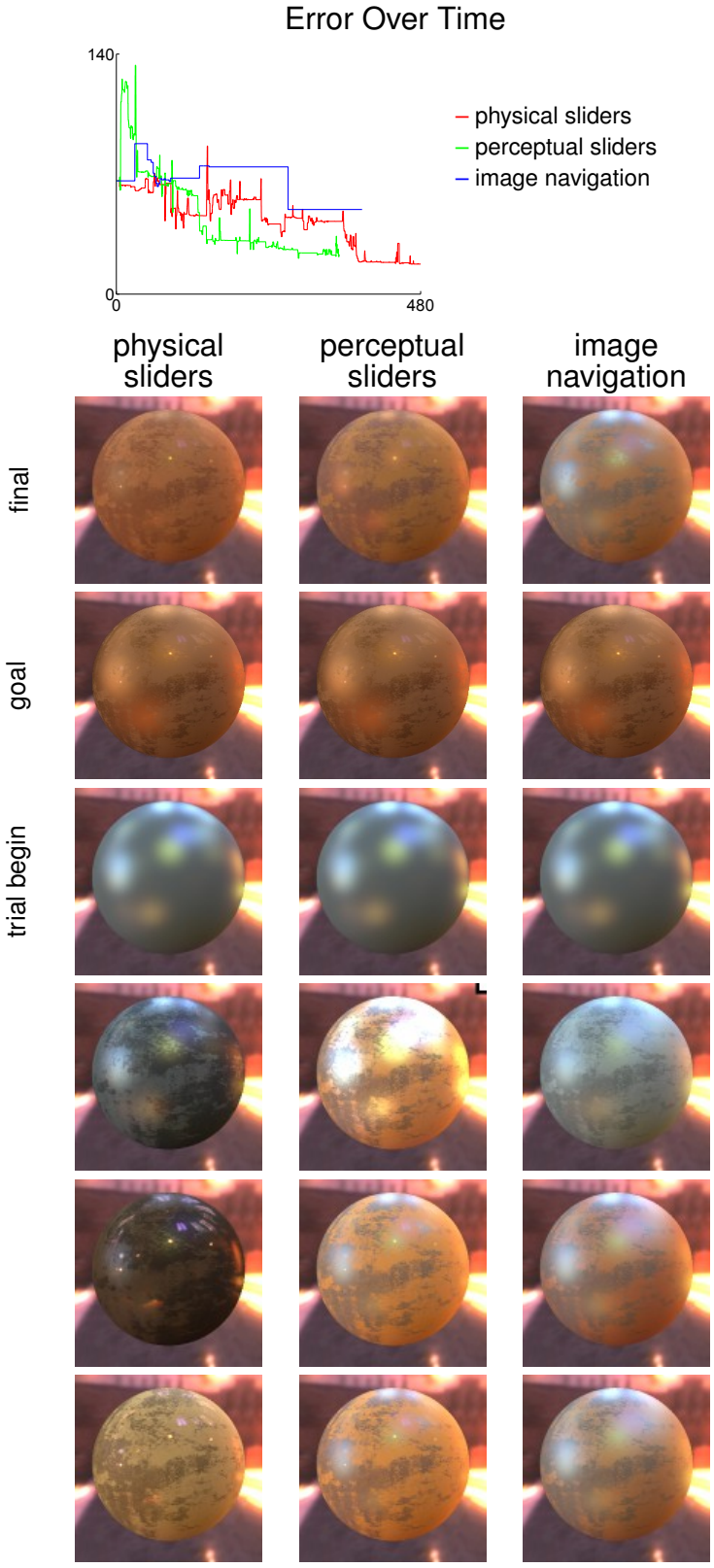

physical sliders
perceptual sliders
image navigation

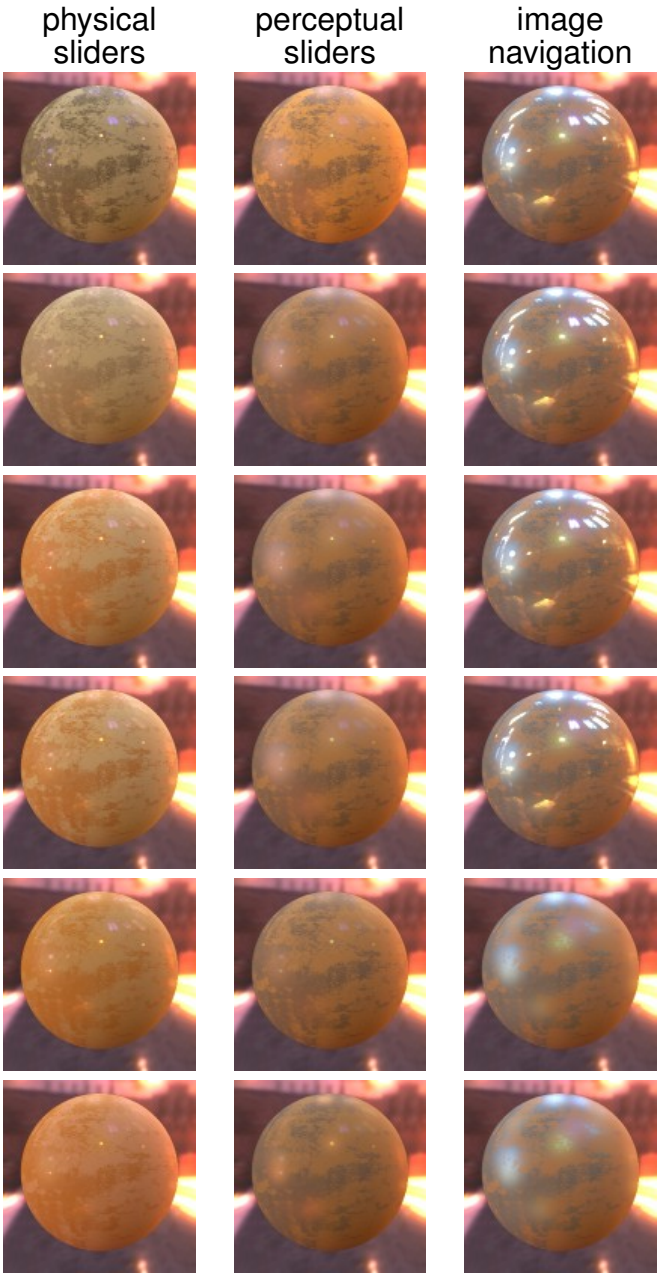
Trial 5

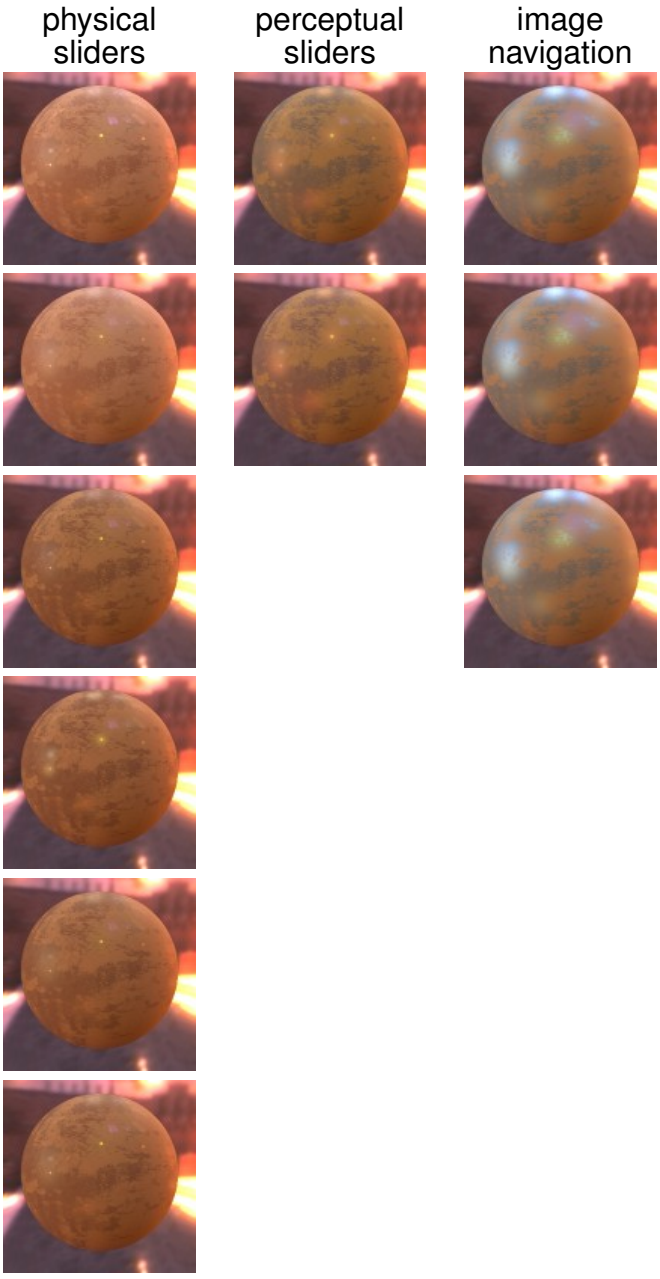

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

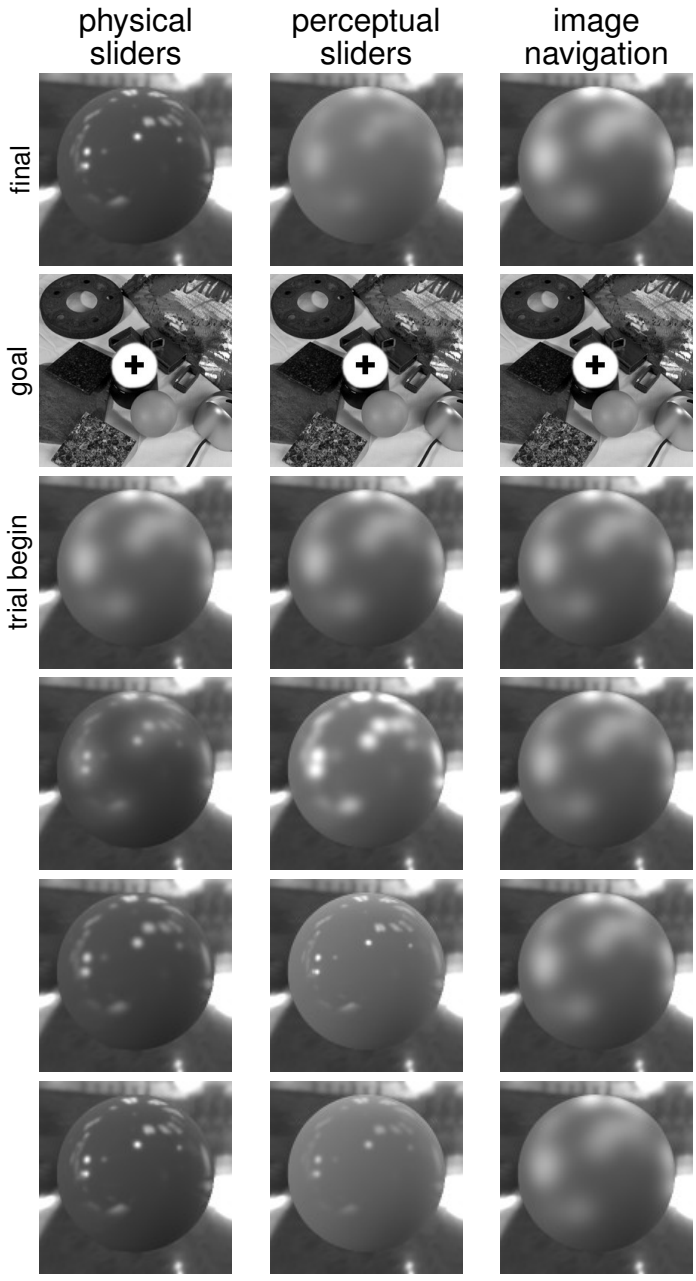
Trial 6


Error Over Time
140
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

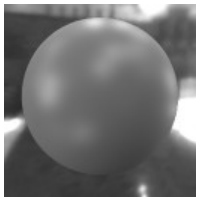
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

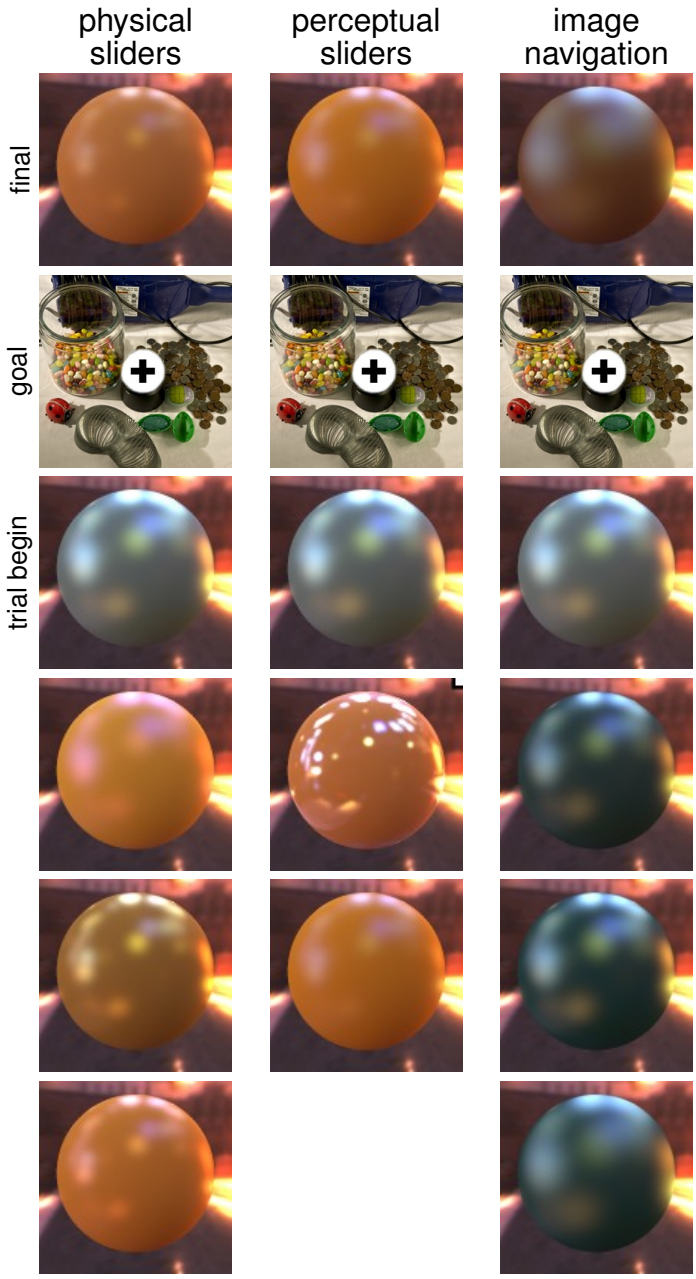
physical sliders

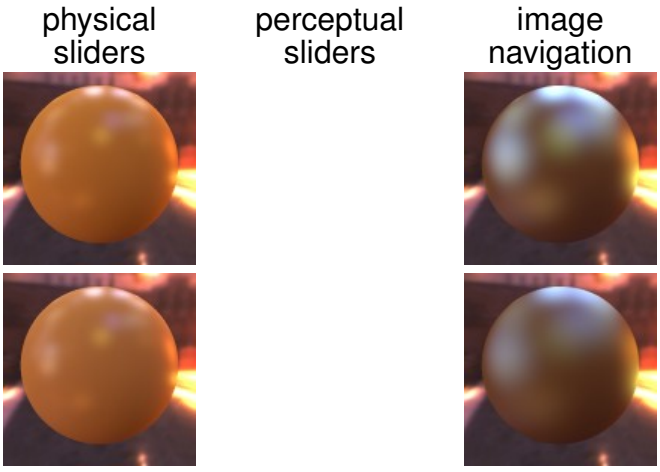
perceptual sliders

image navigation

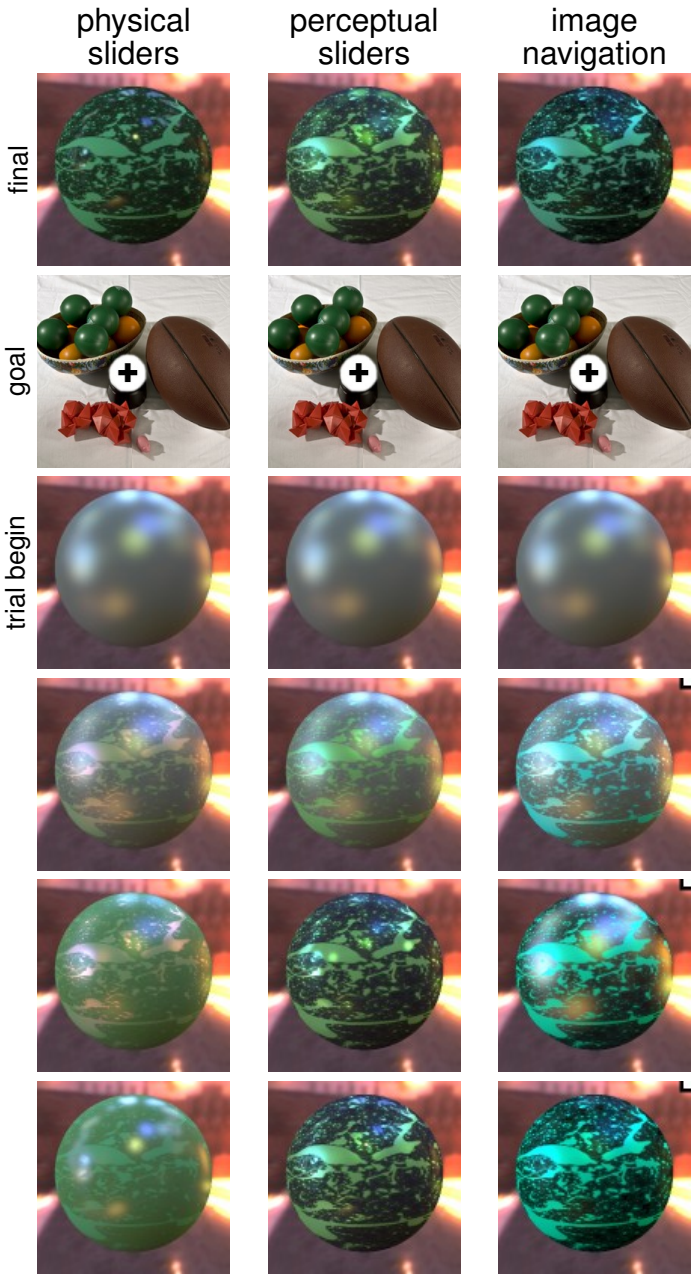


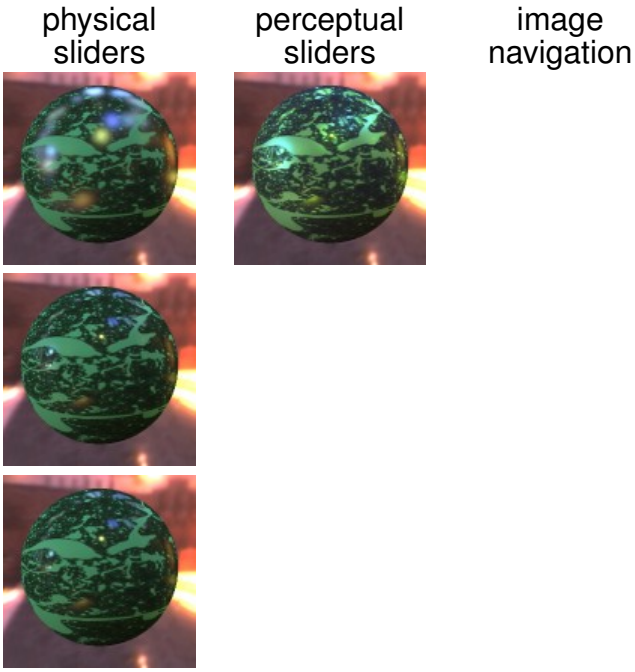
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

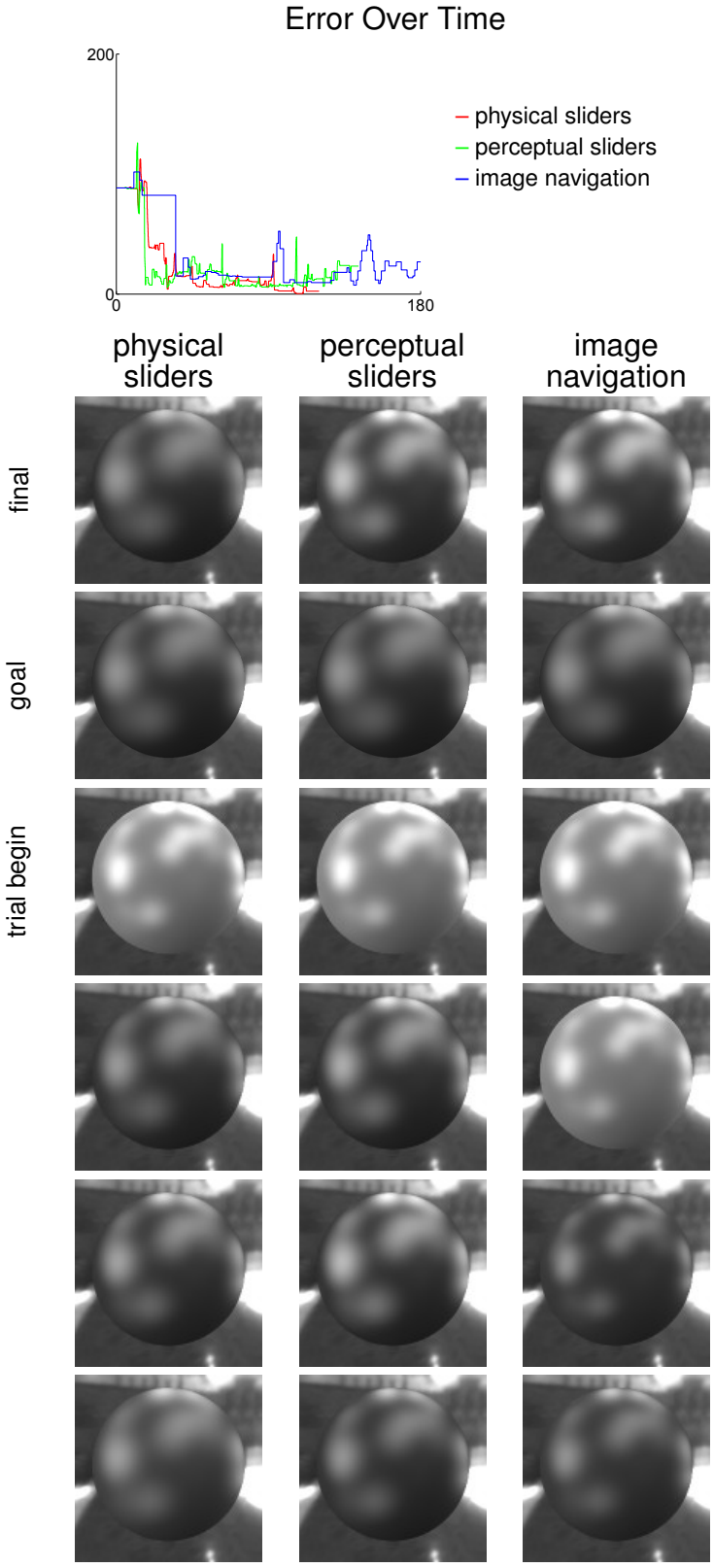
Trial 9

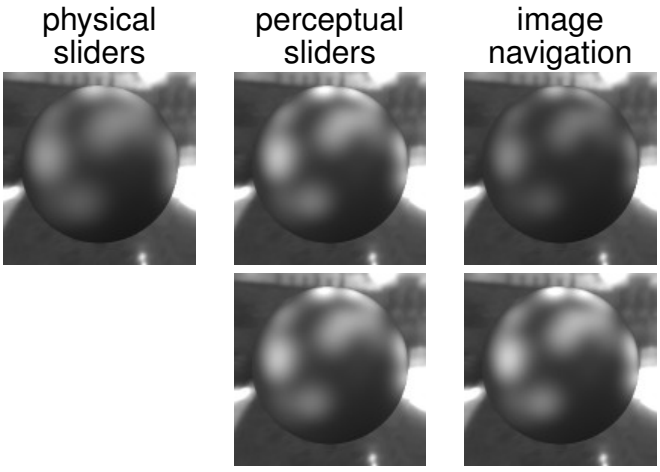

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

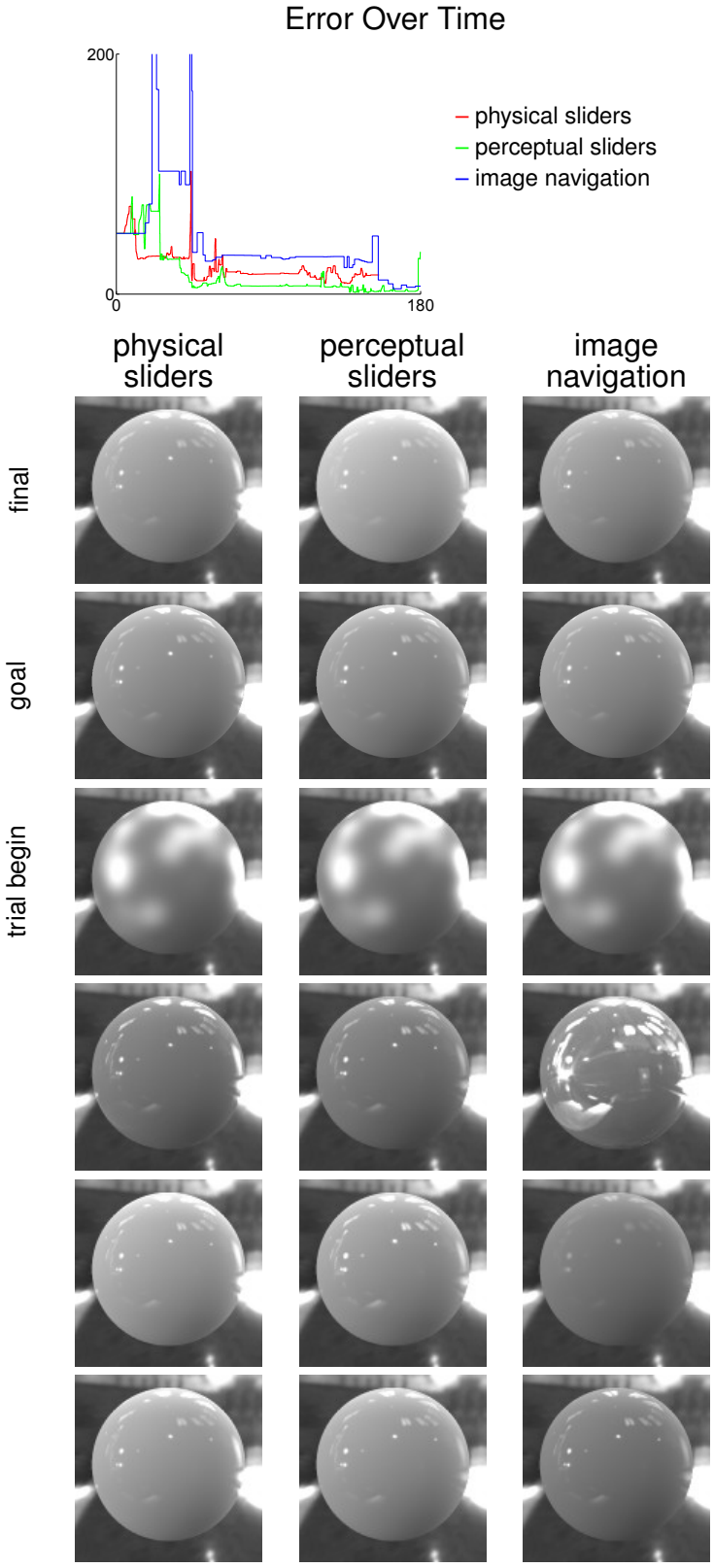
Subject 15

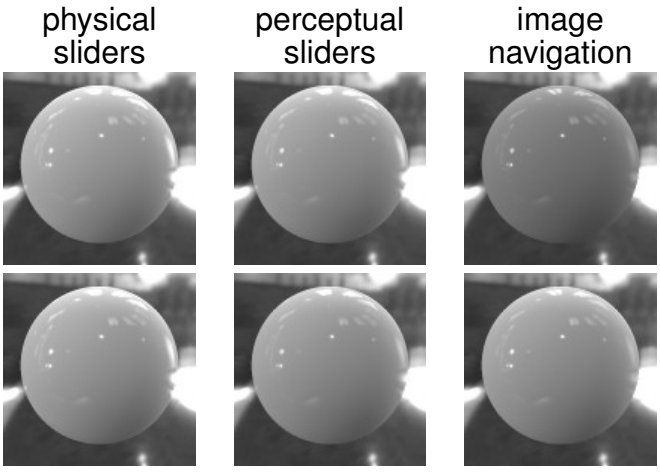
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

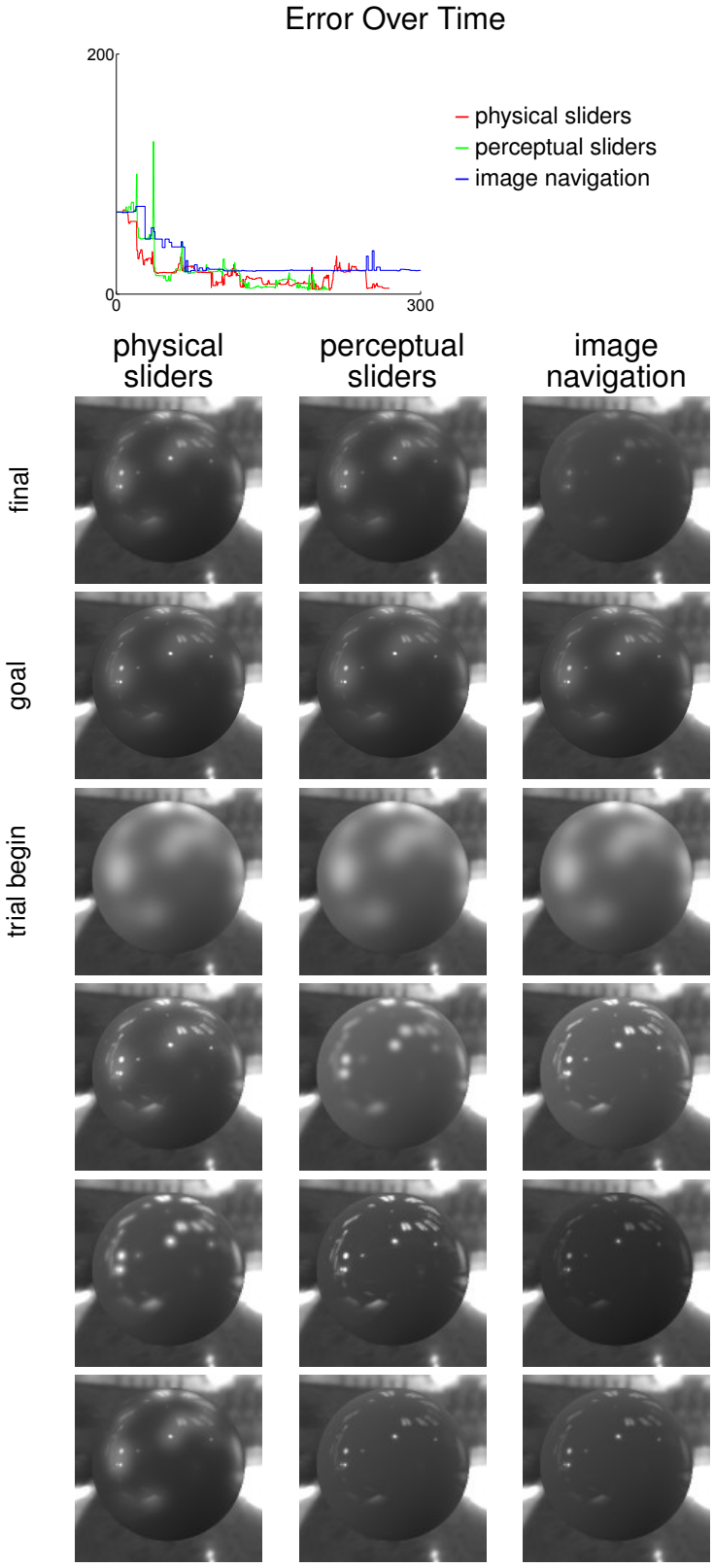

physical sliders
perceptual sliders
image navigation

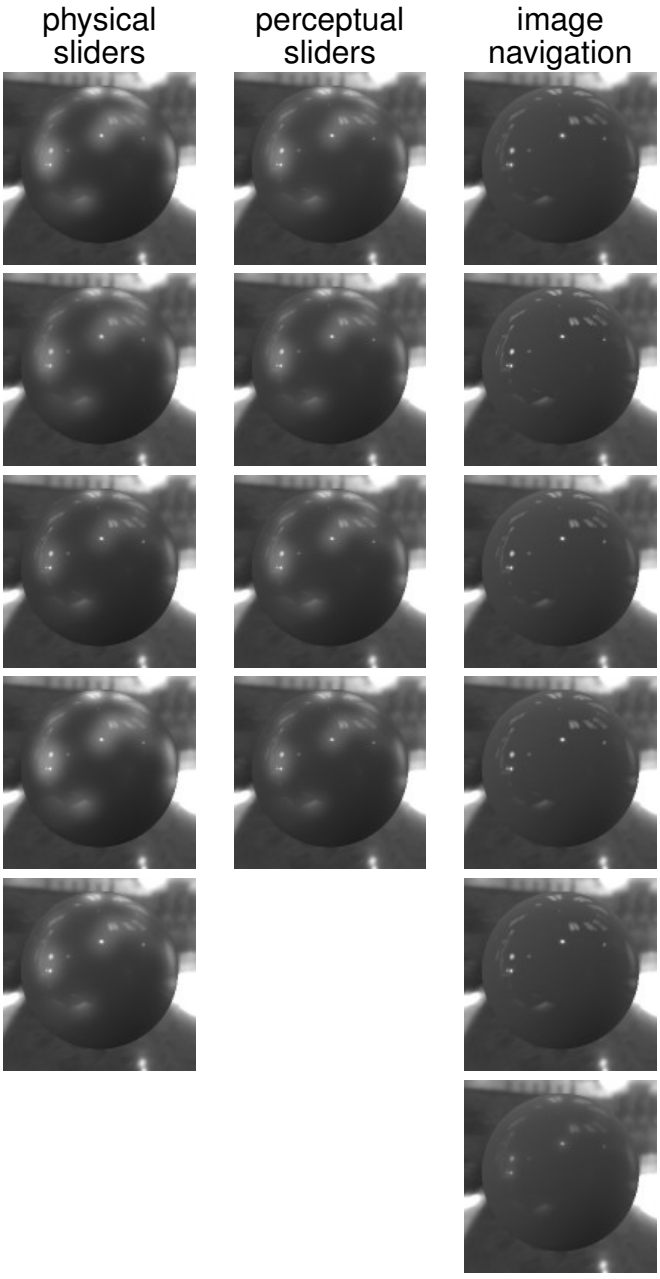
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

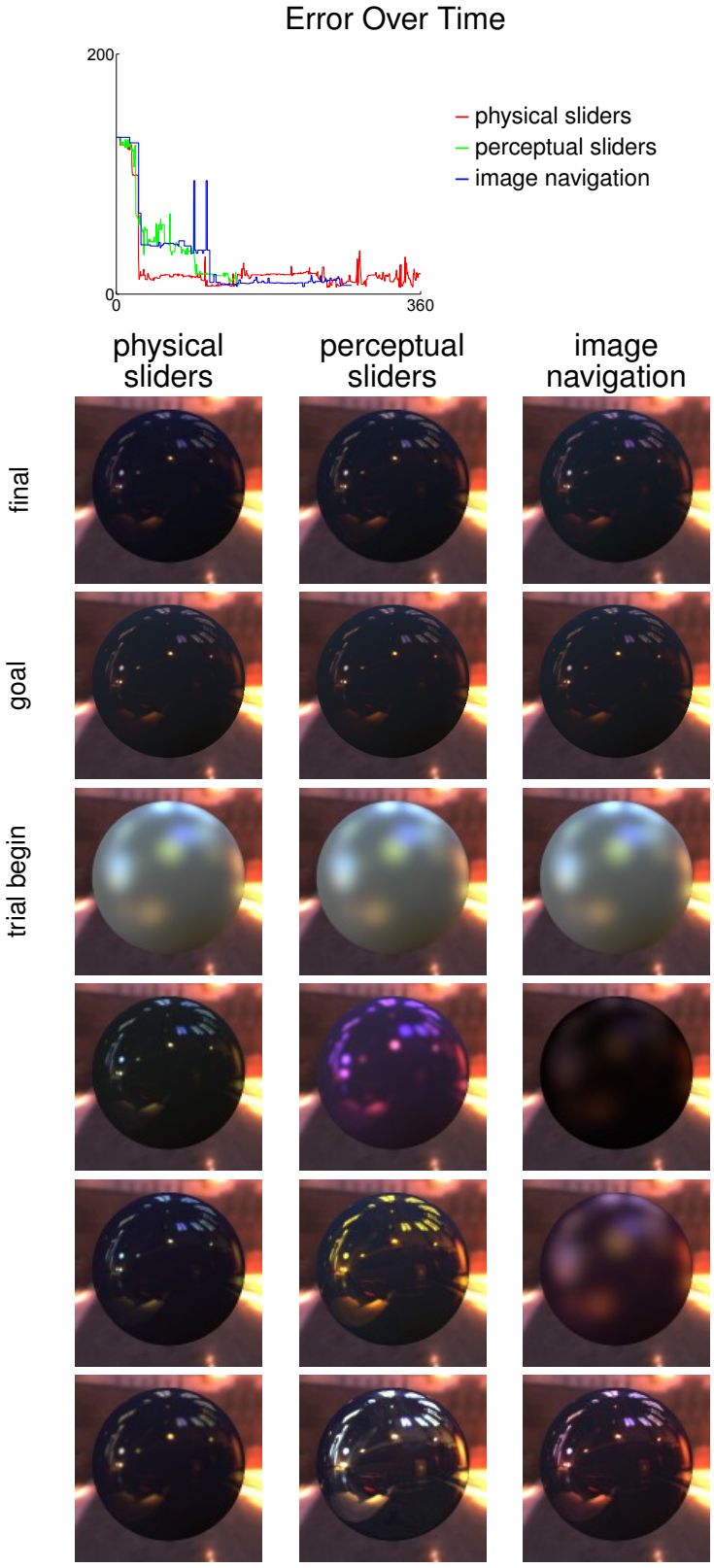

physical sliders
perceptual sliders
image navigation

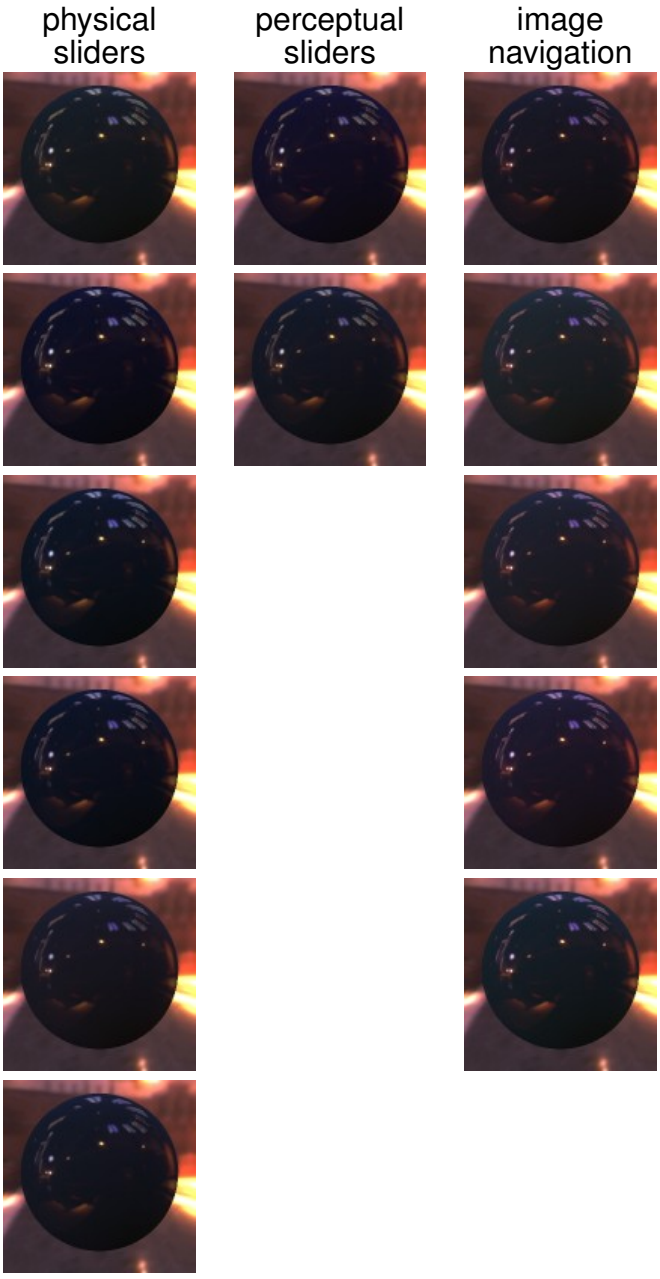
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 4

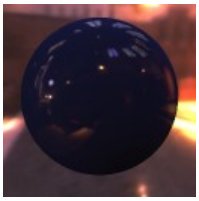

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

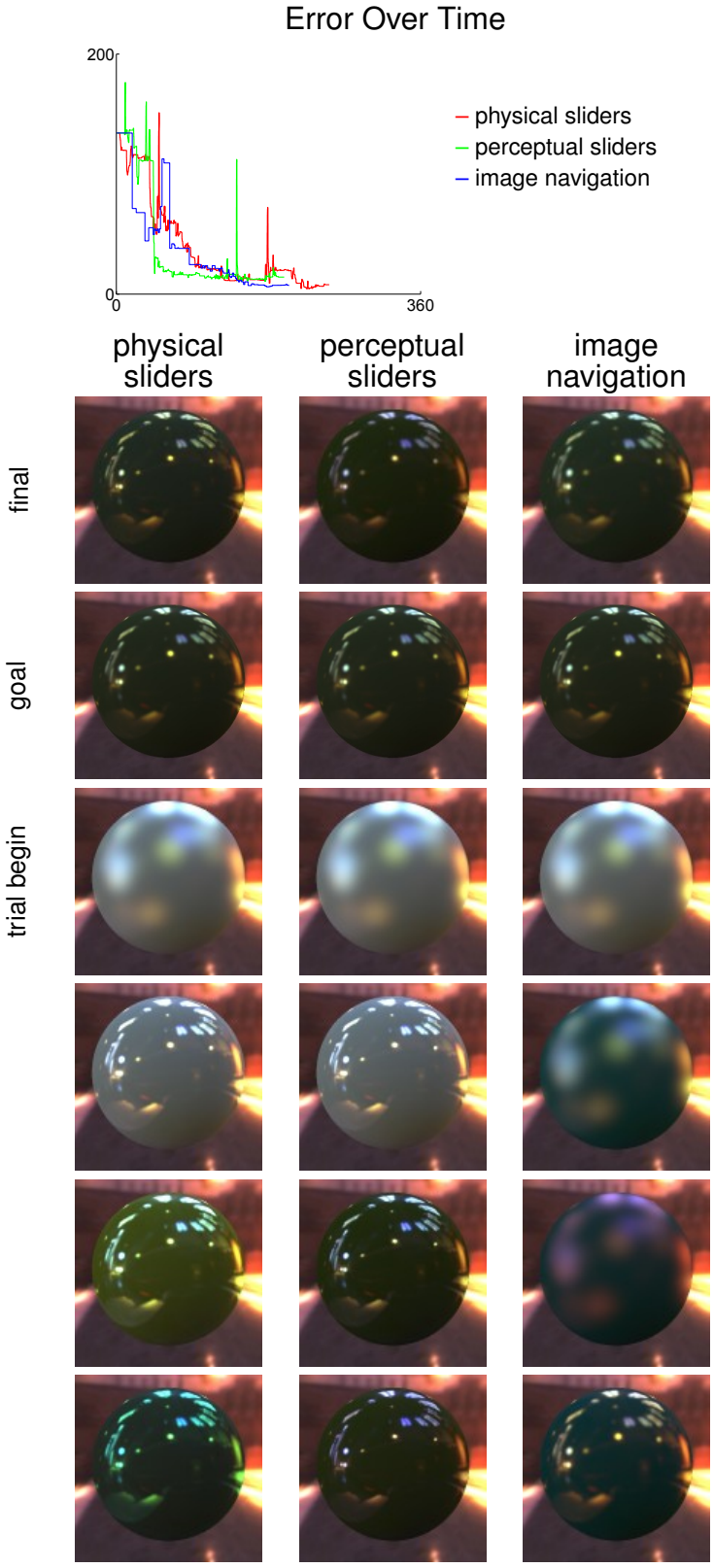
physical sliders

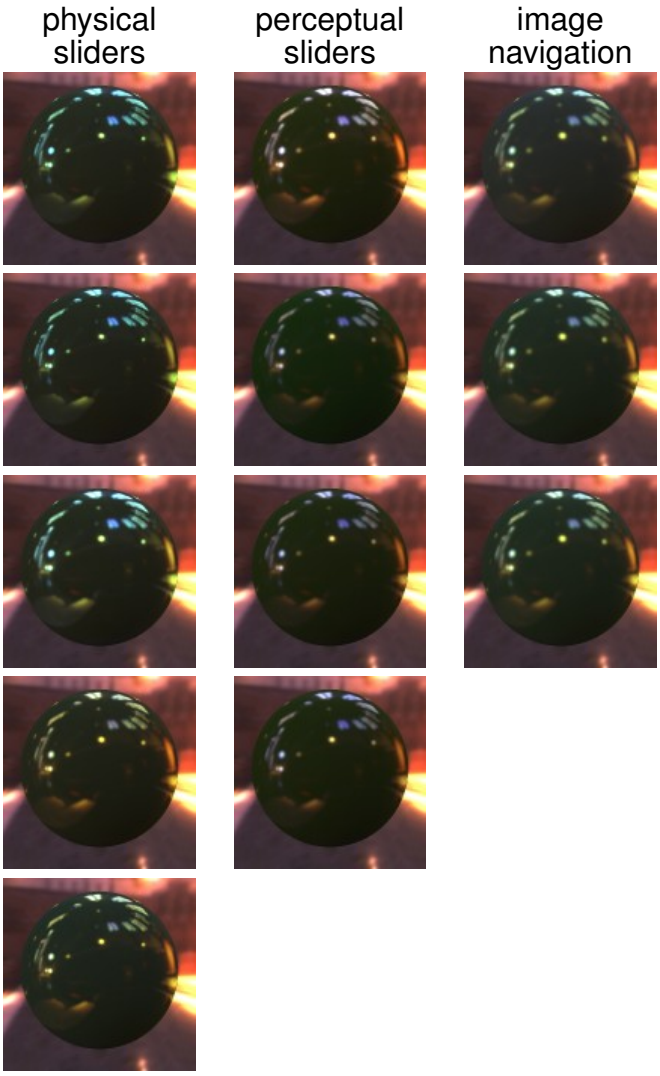
perceptual sliders

image navigation

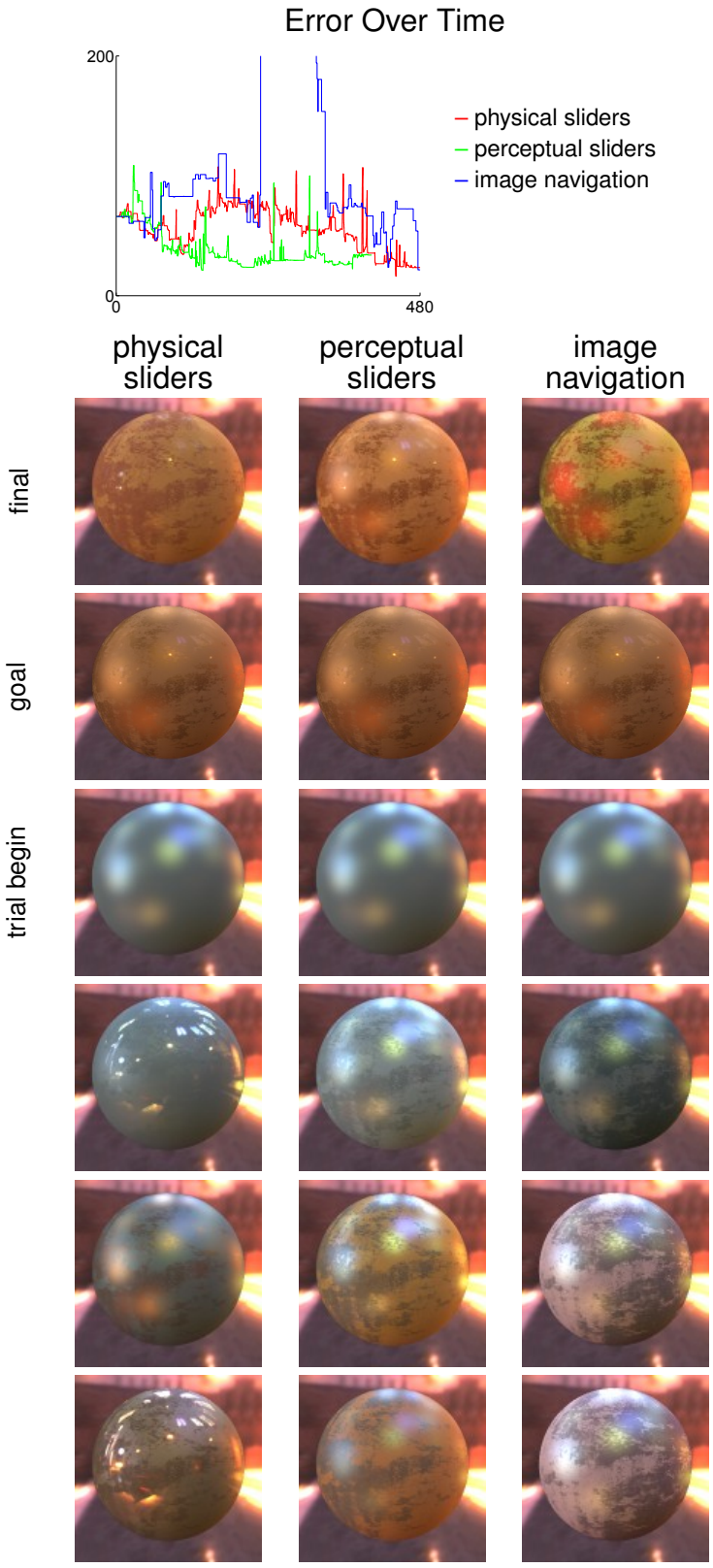


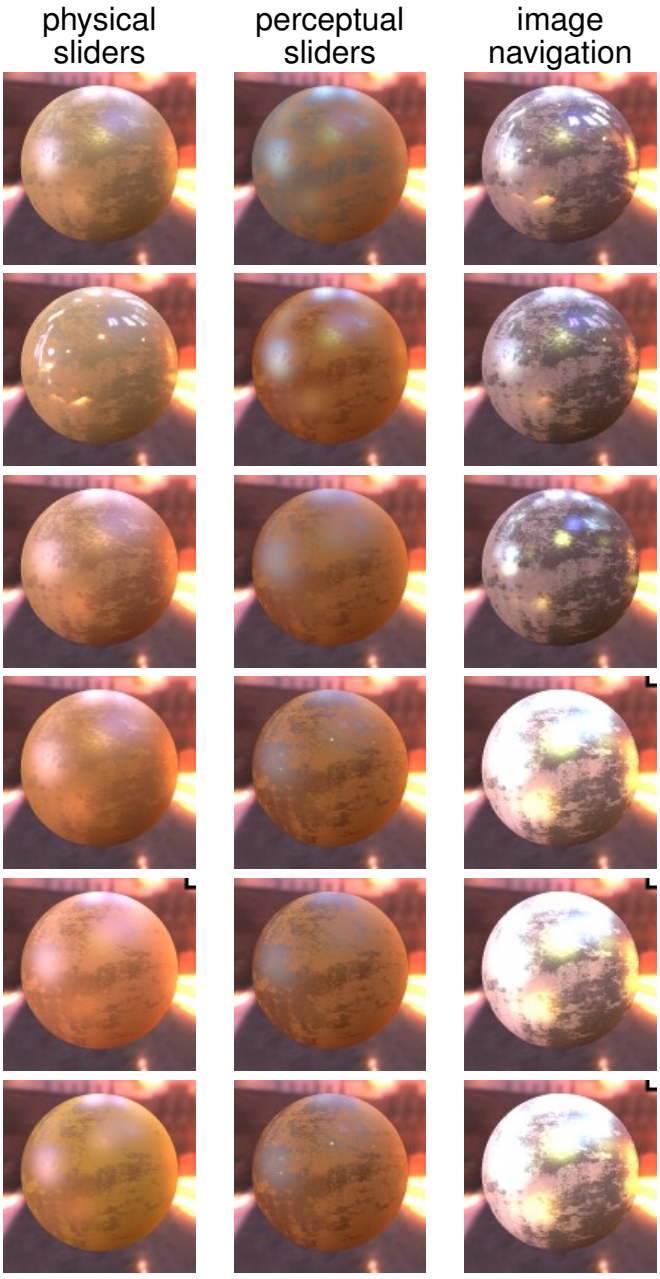
Trial 5

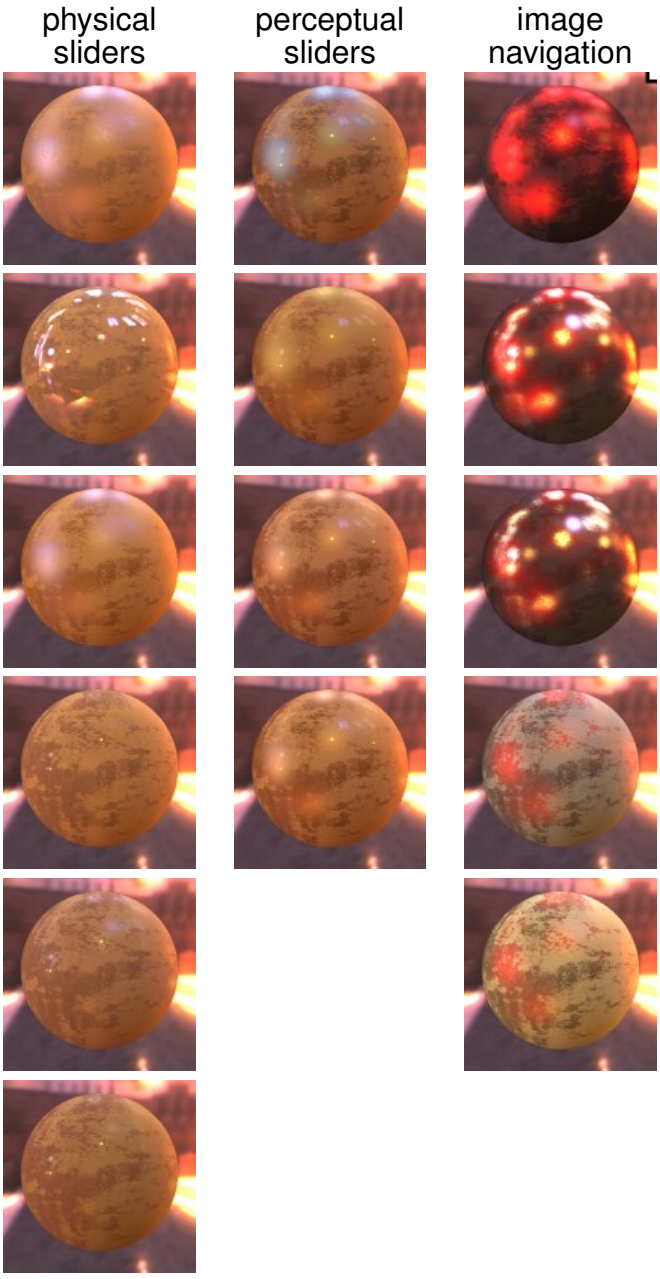

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

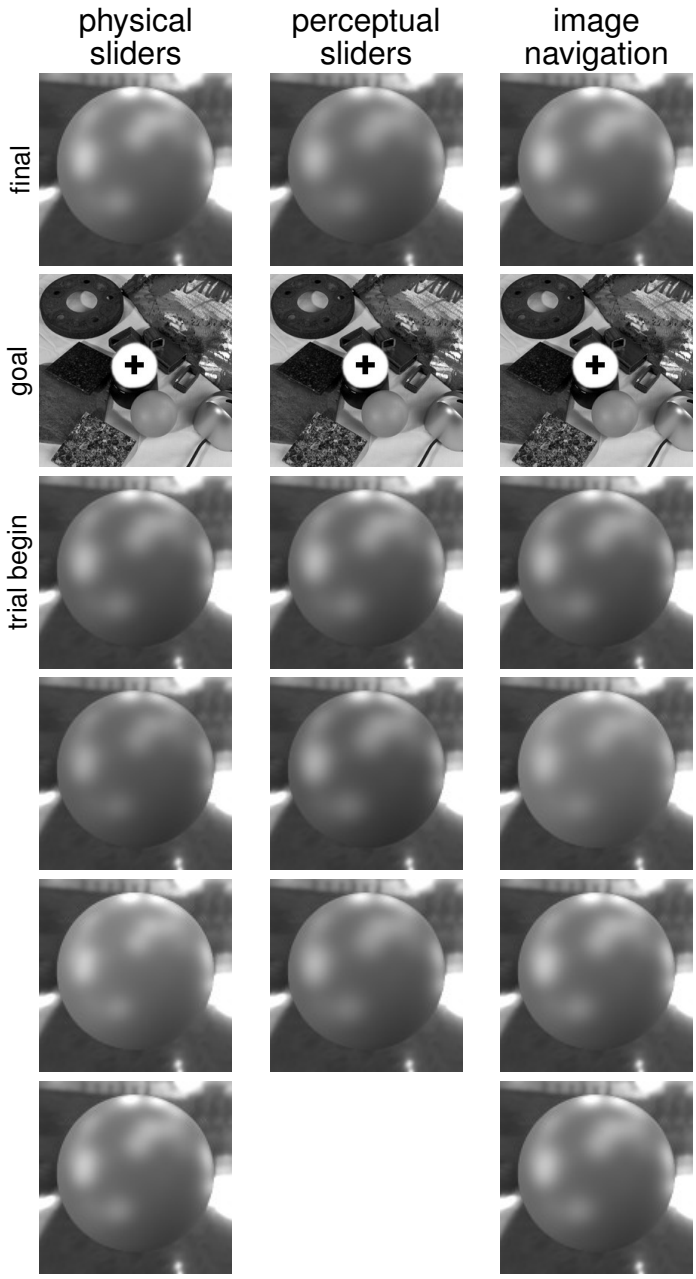
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

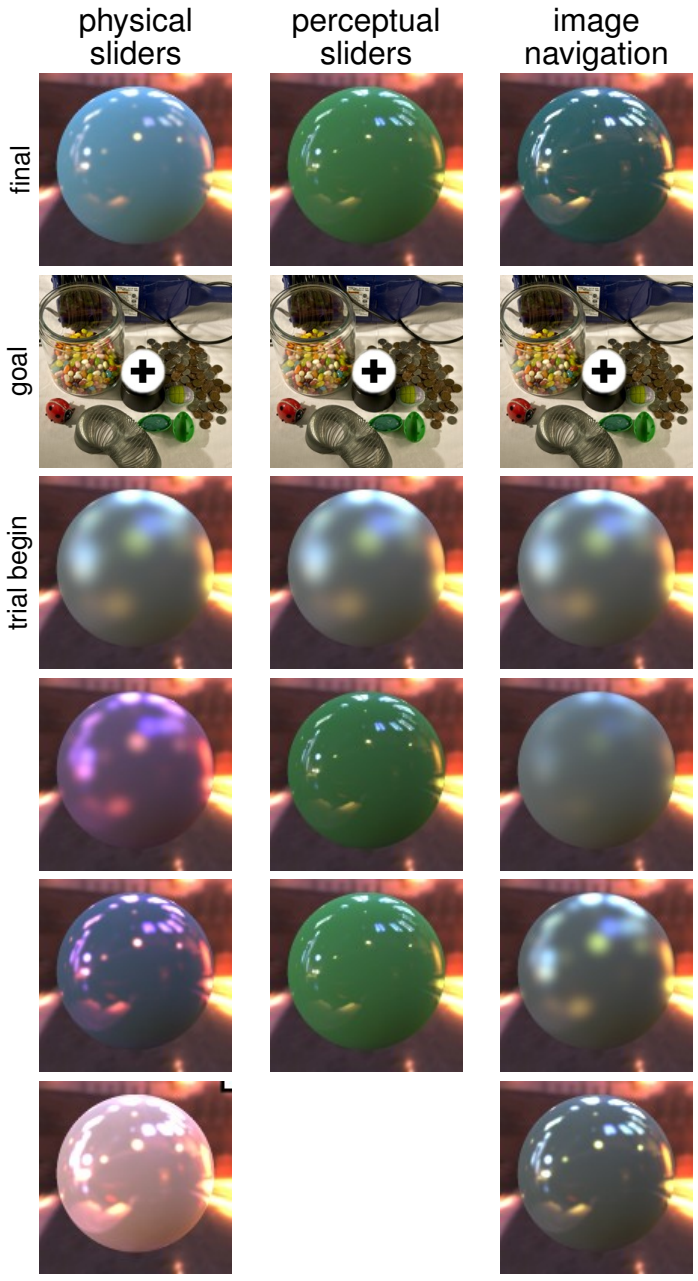

physical sliders
perceptual sliders
image navigation

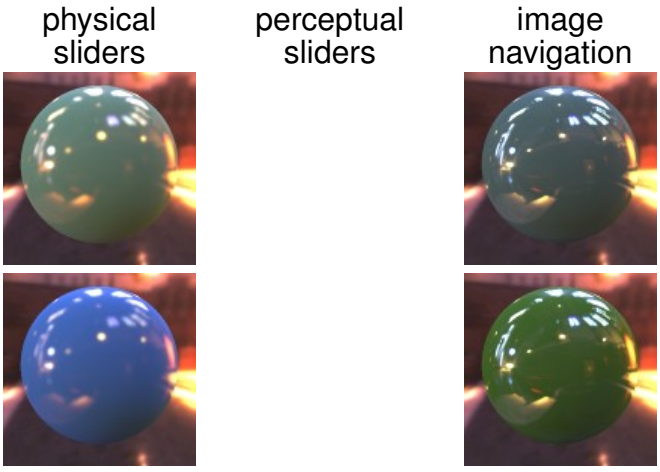

physical sliders
perceptual sliders
image navigation

Trial 7

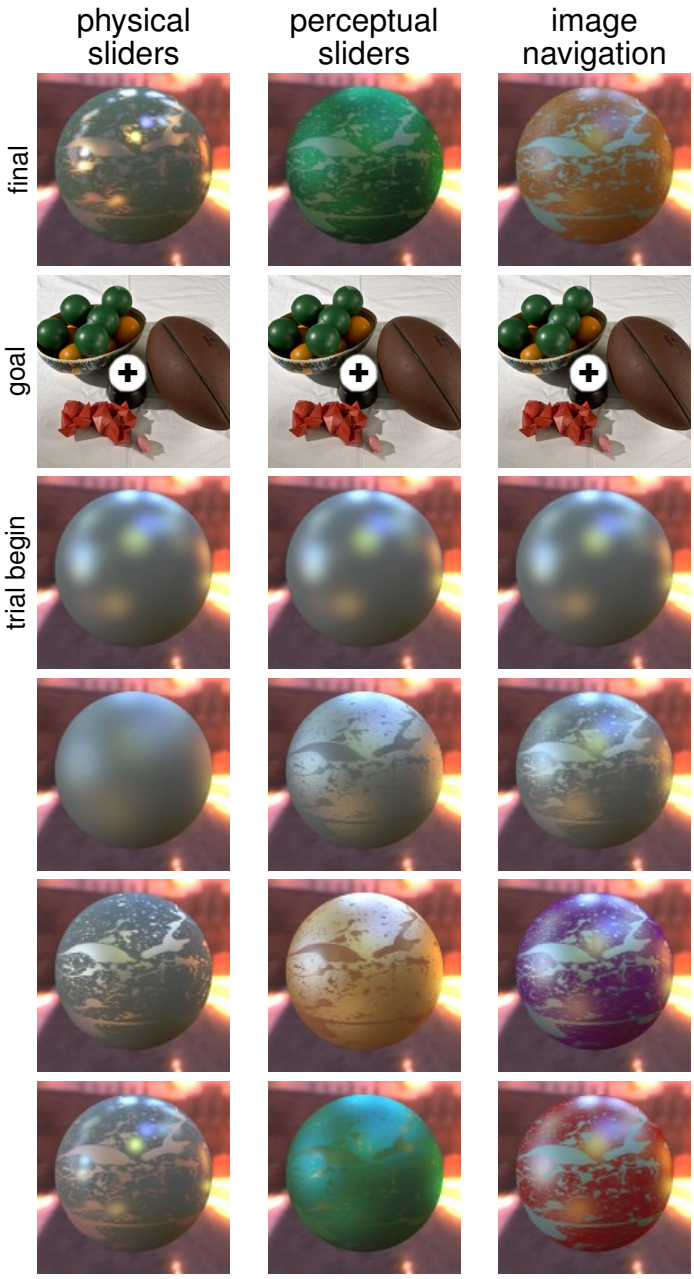

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

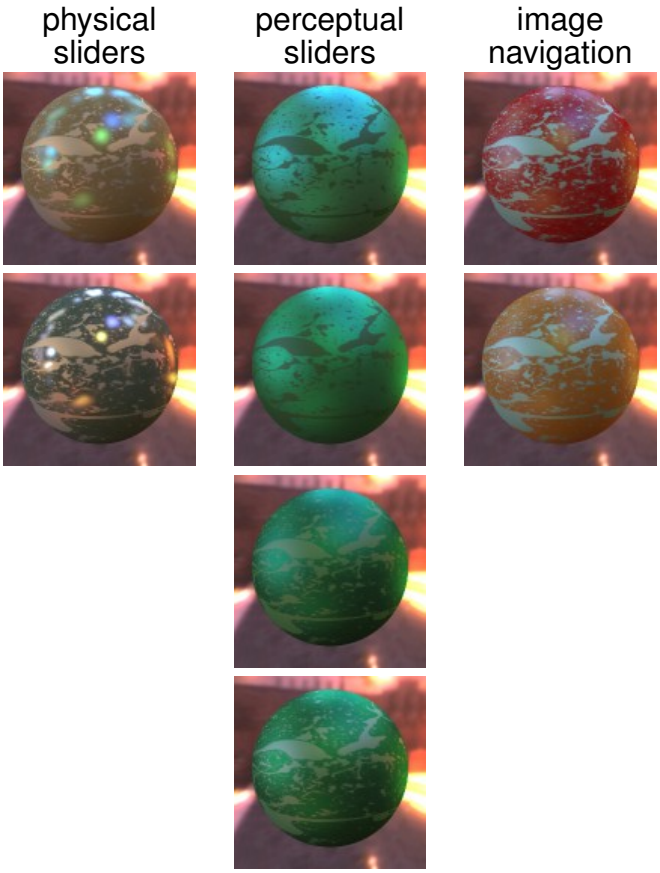
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical
sliders
perceptual
sliders
image
navigation

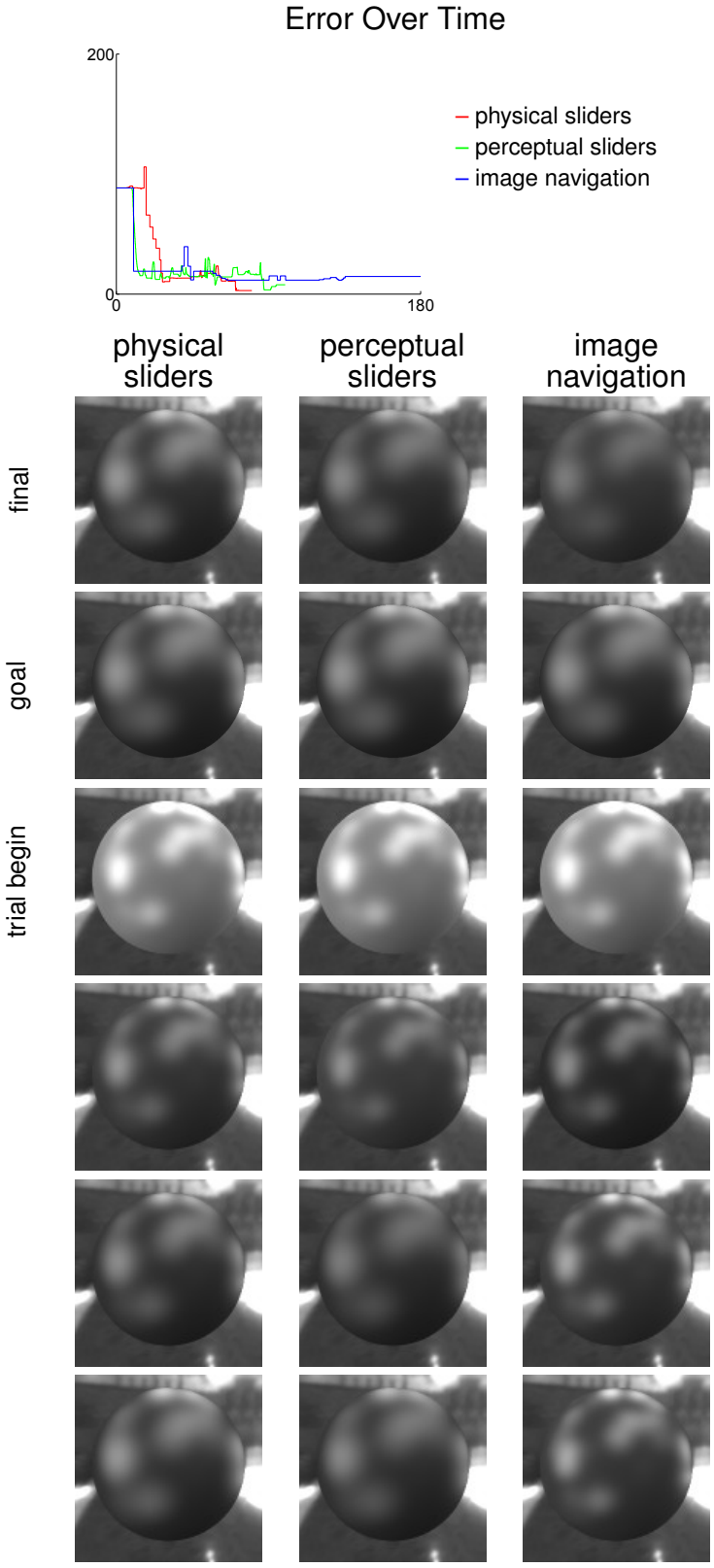
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Subject 16

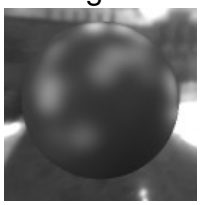
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

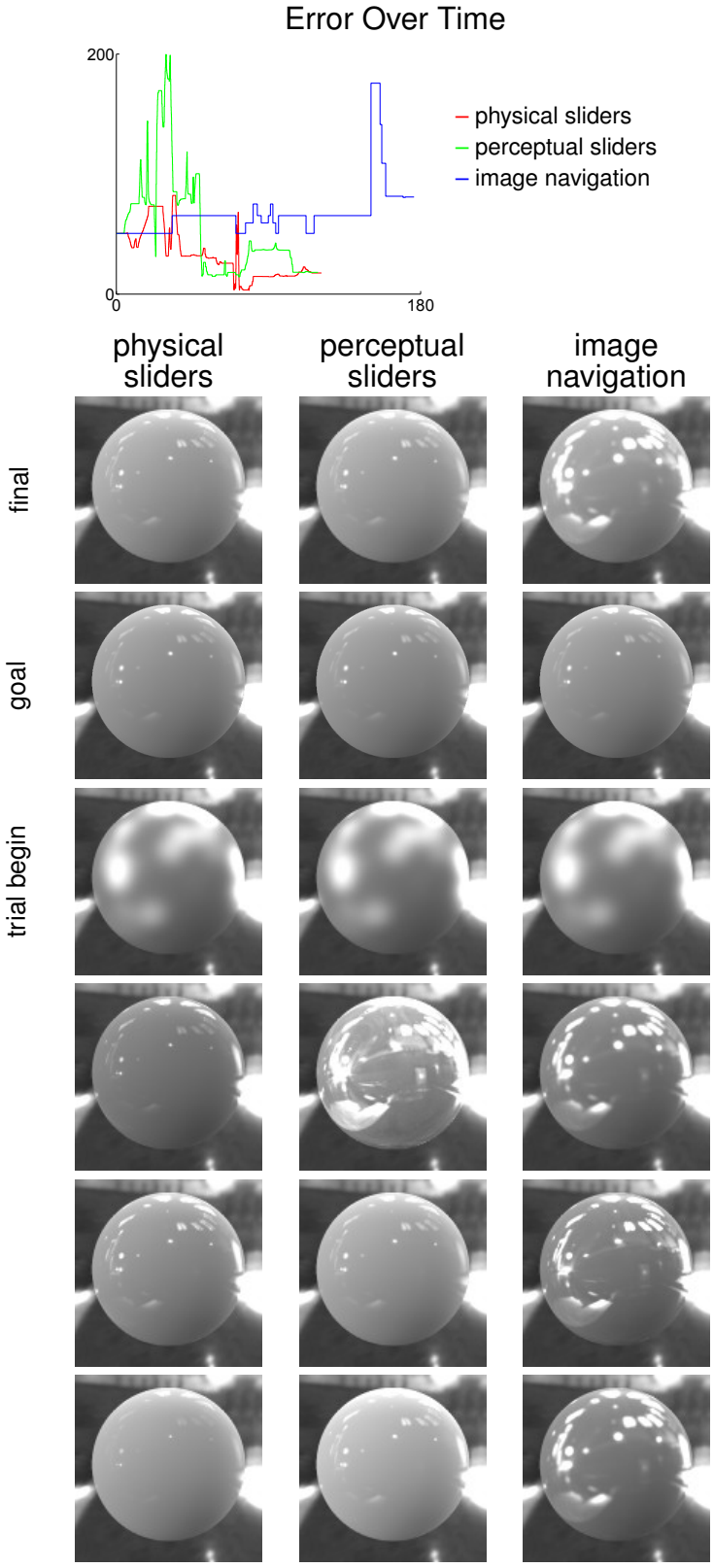
physical sliders

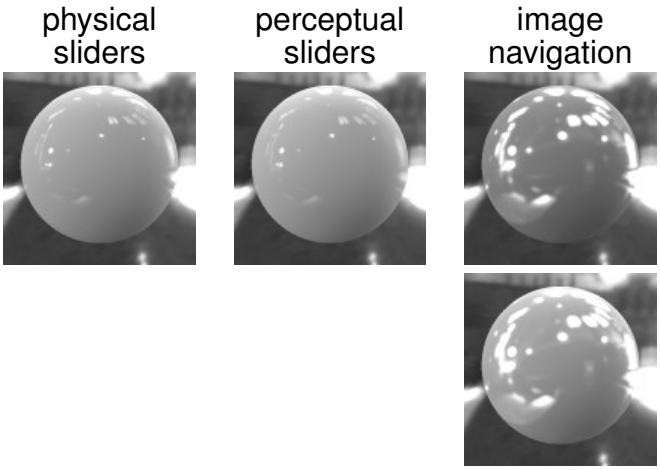
perceptual sliders

image navigation

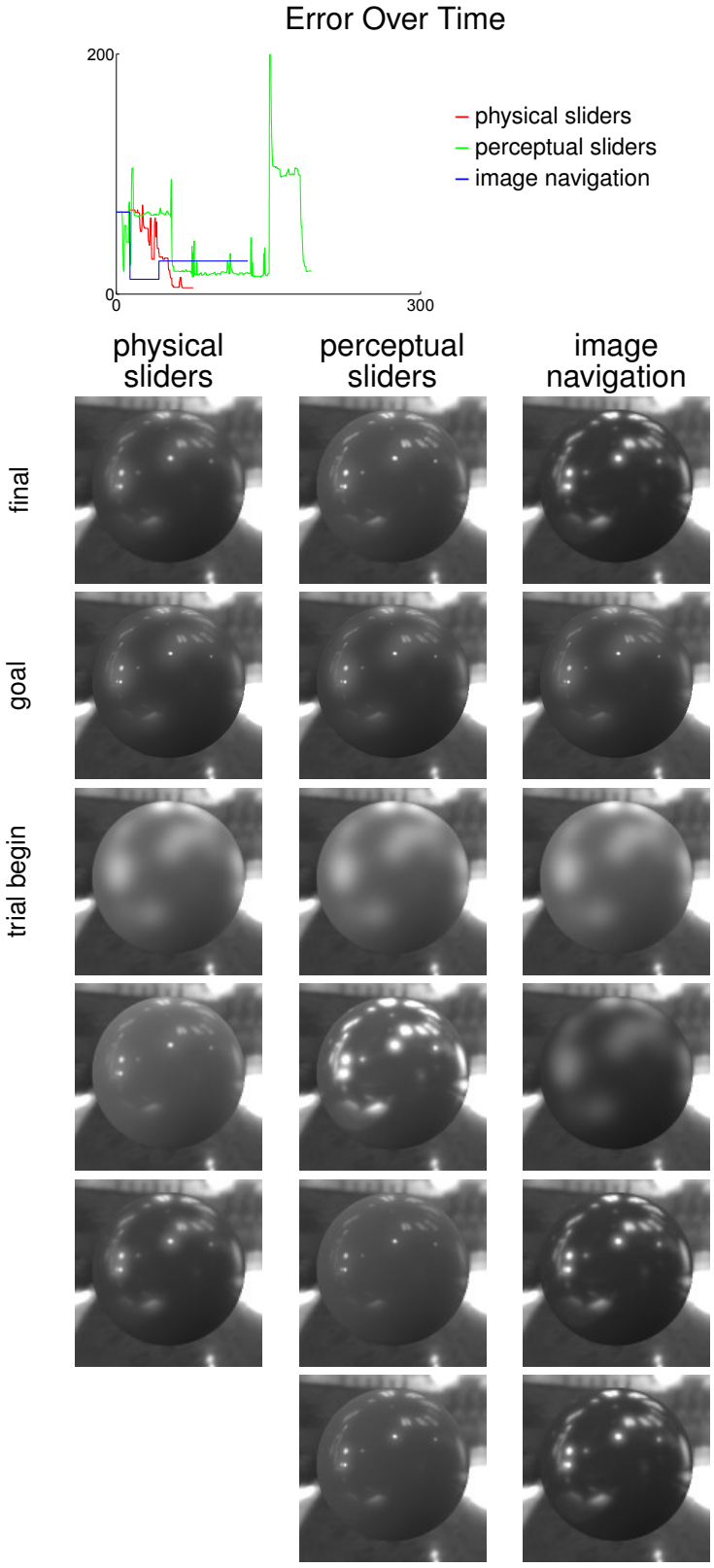


Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 3

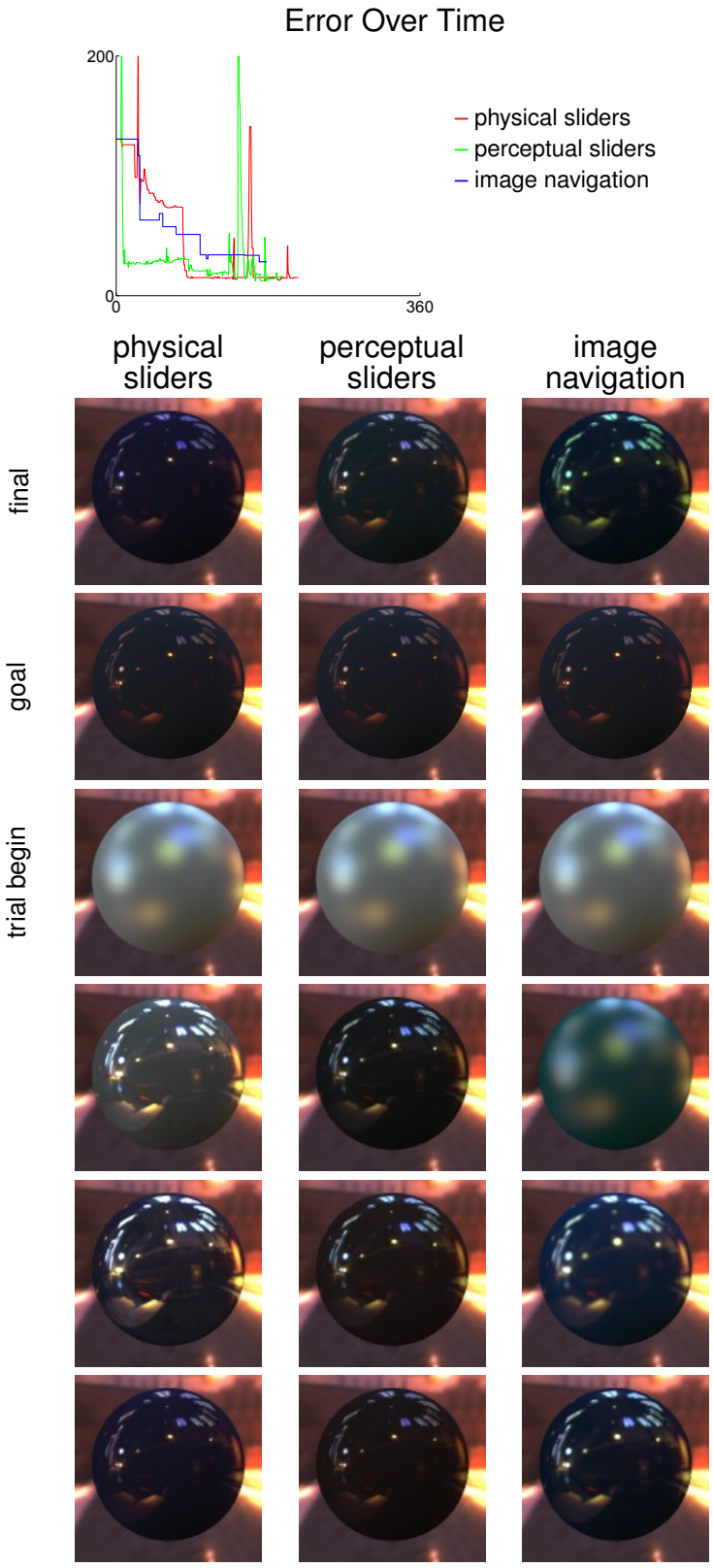

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

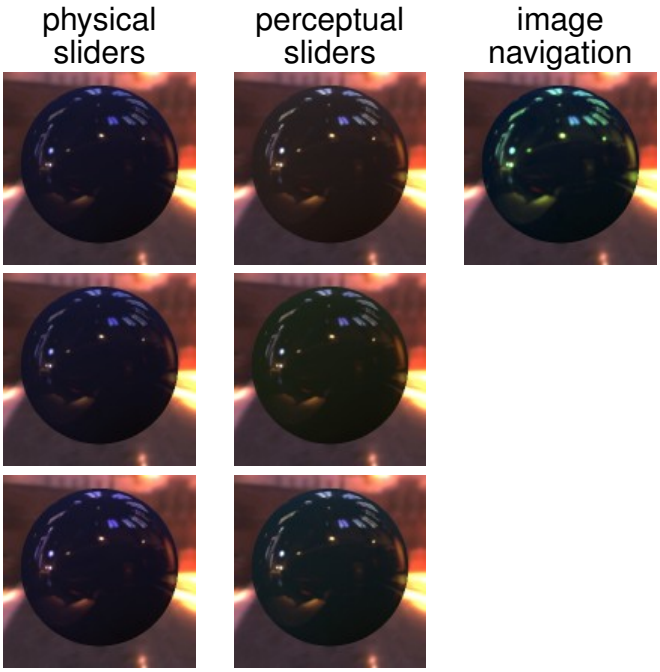
physical sliders

perceptual sliders

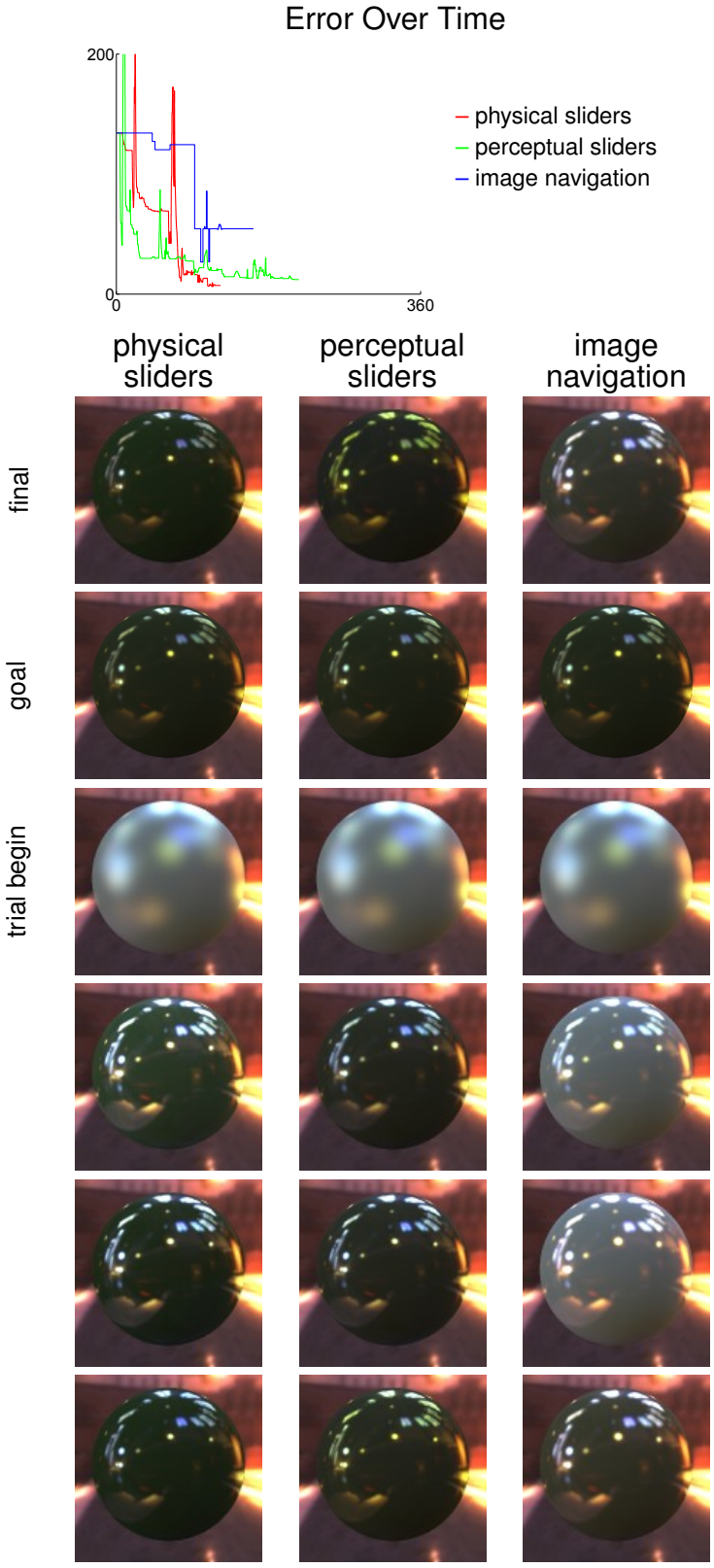
image navigation

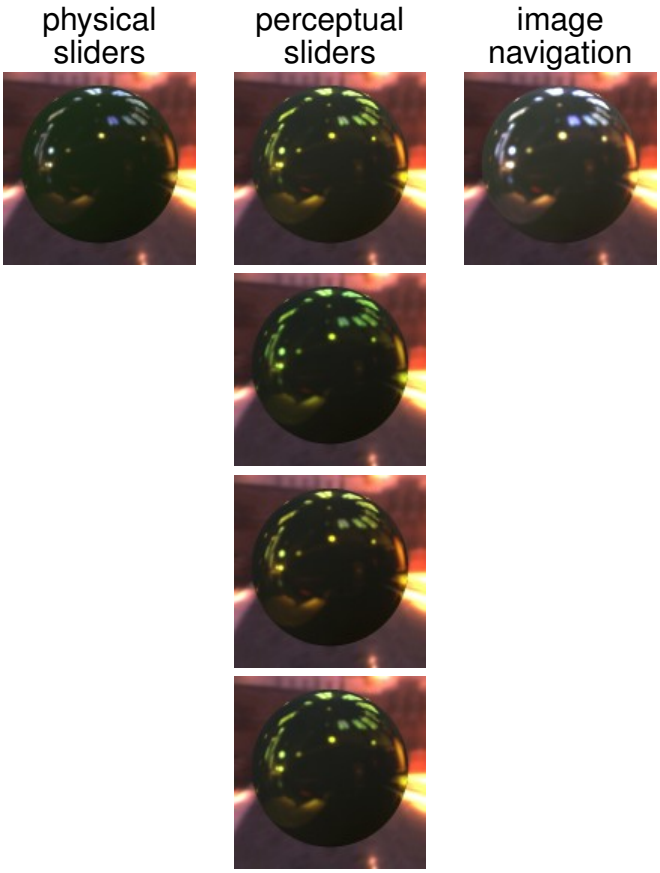
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

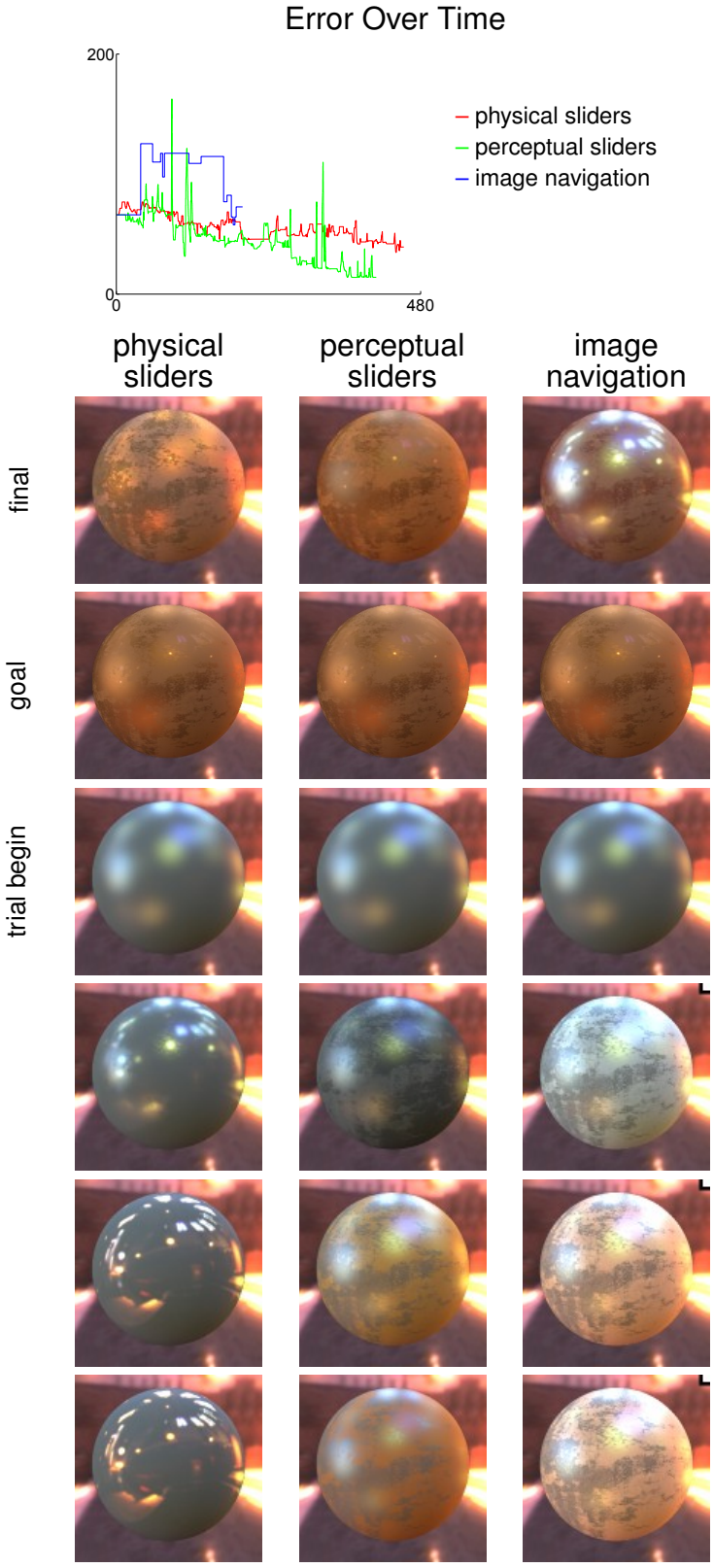

physical sliders
perceptual sliders
image navigation

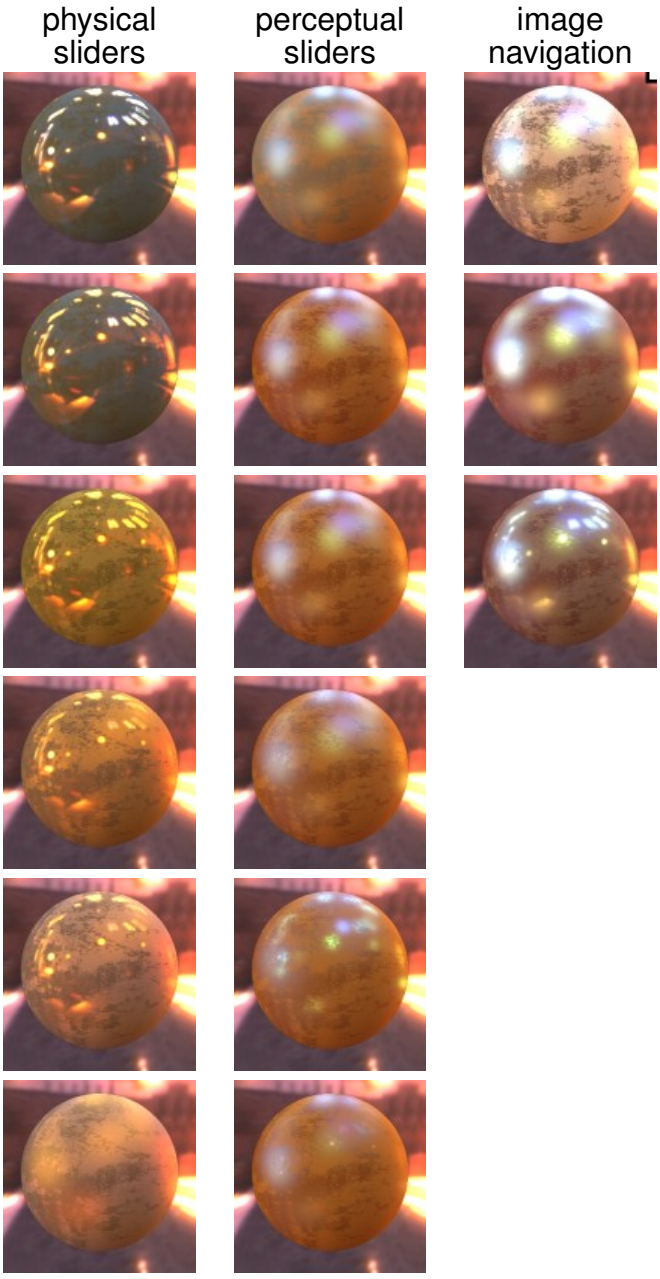
Trial 5

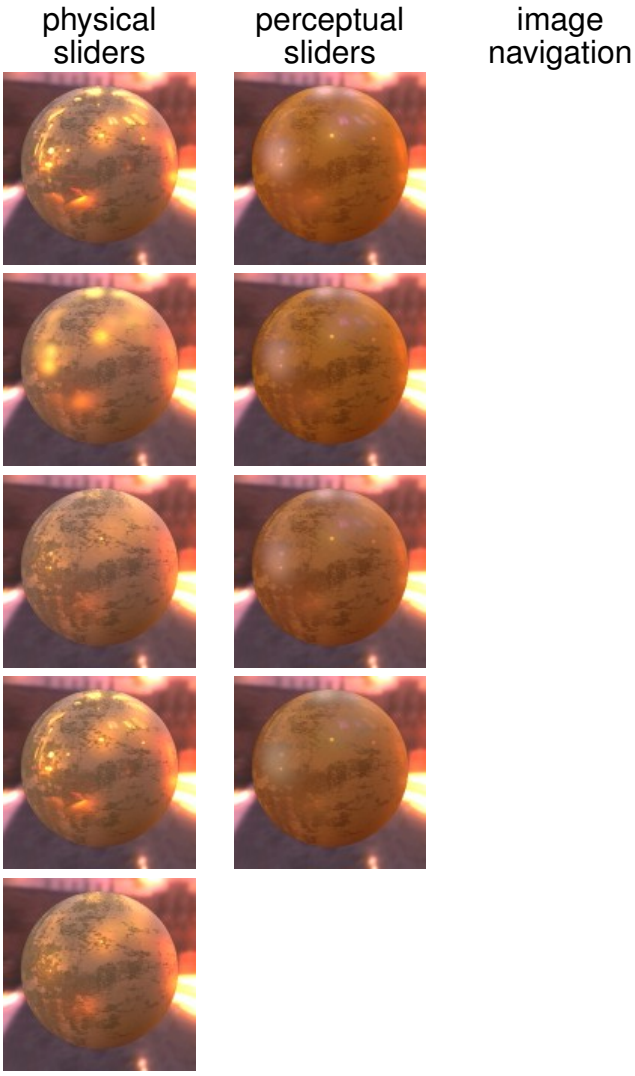

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

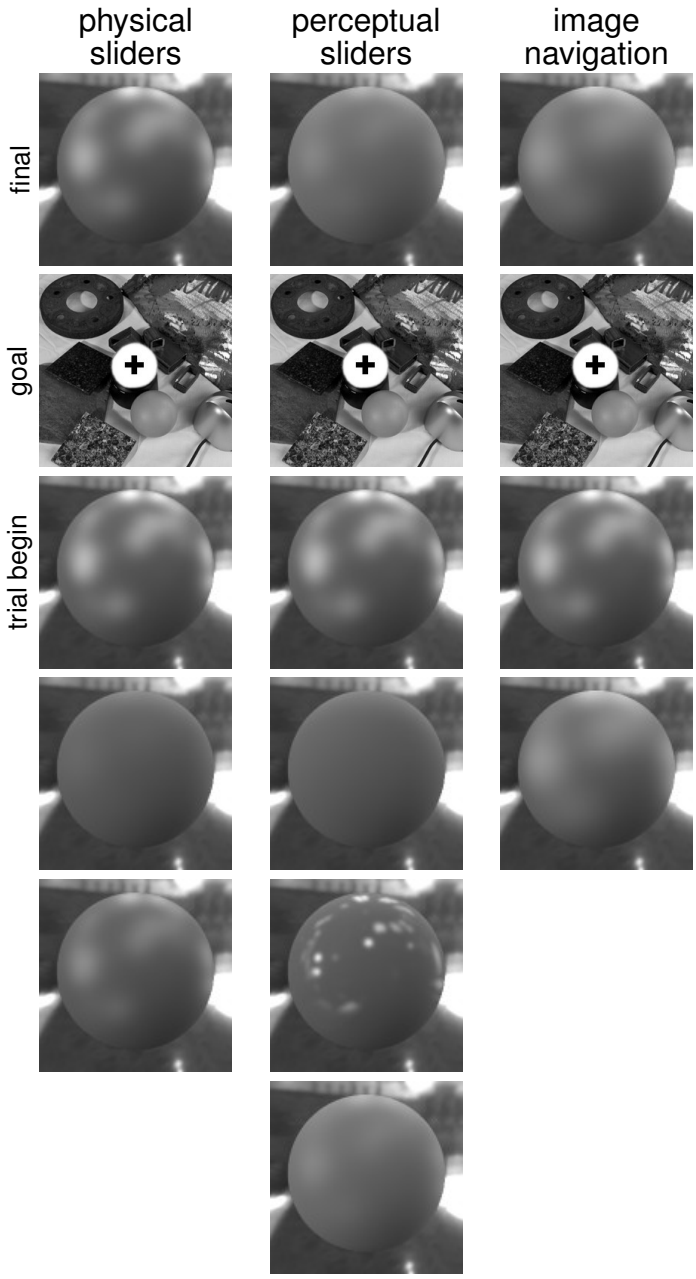
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

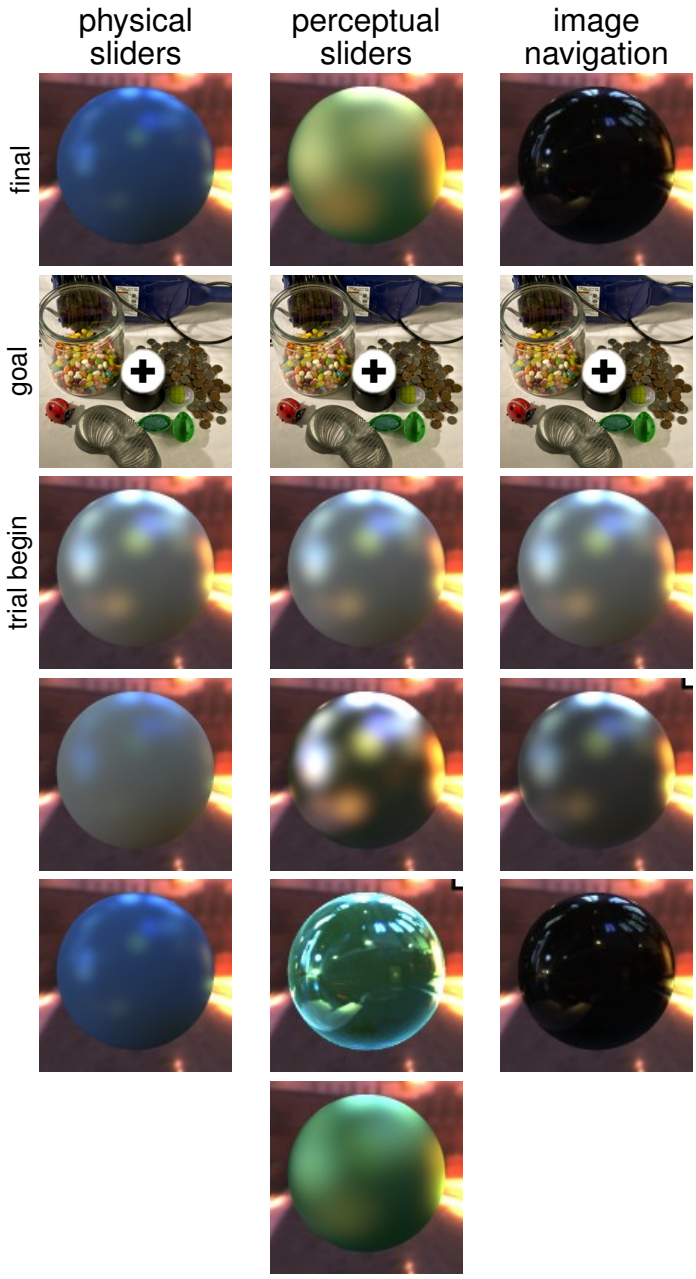

physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

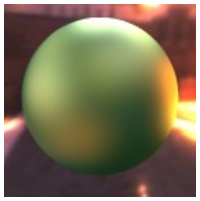
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

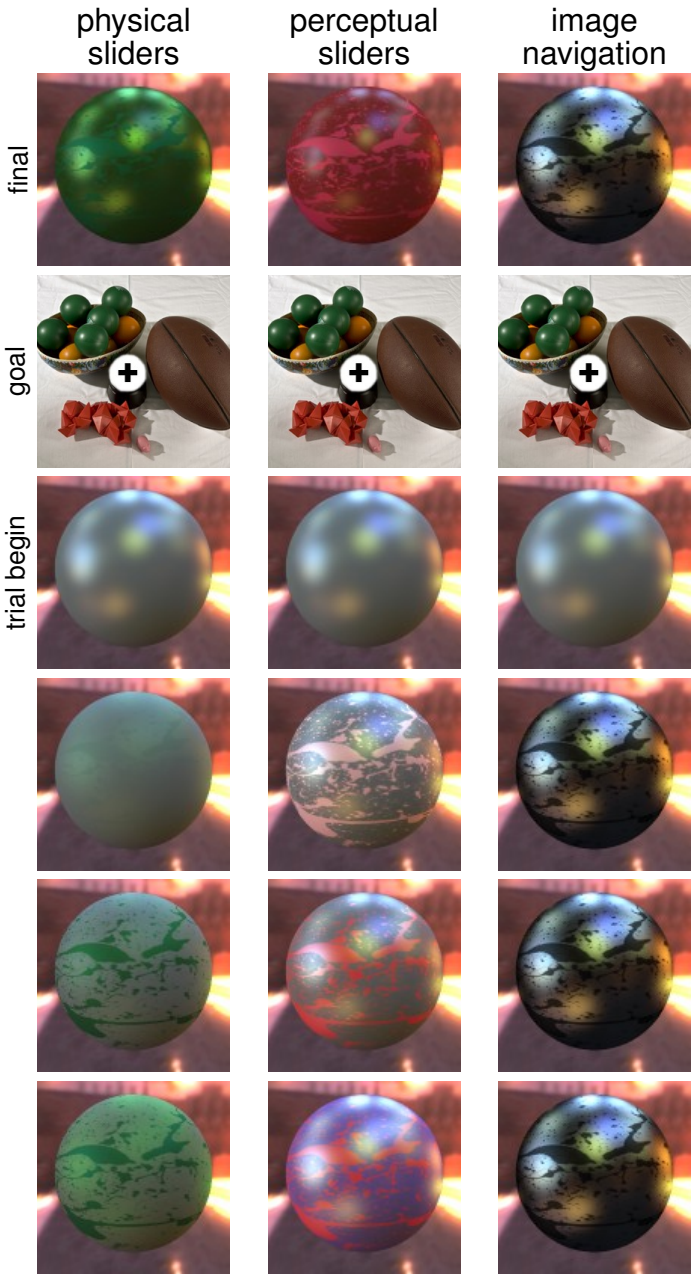
physical sliders

perceptual sliders

image navigation



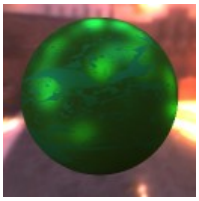
Trial 9

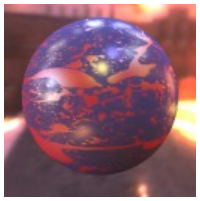

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

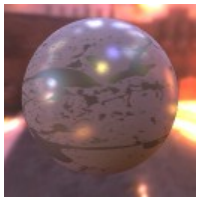
physical sliders

perceptual sliders

image navigation

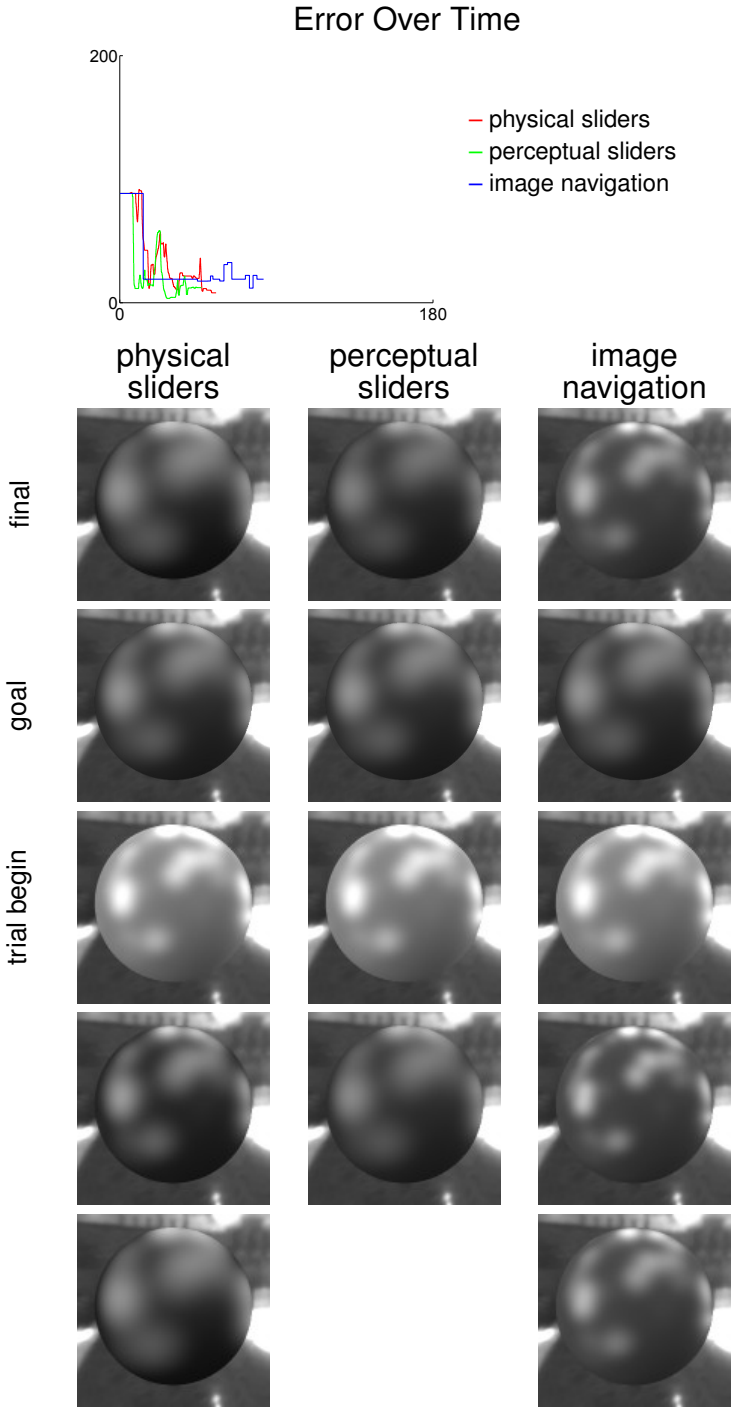




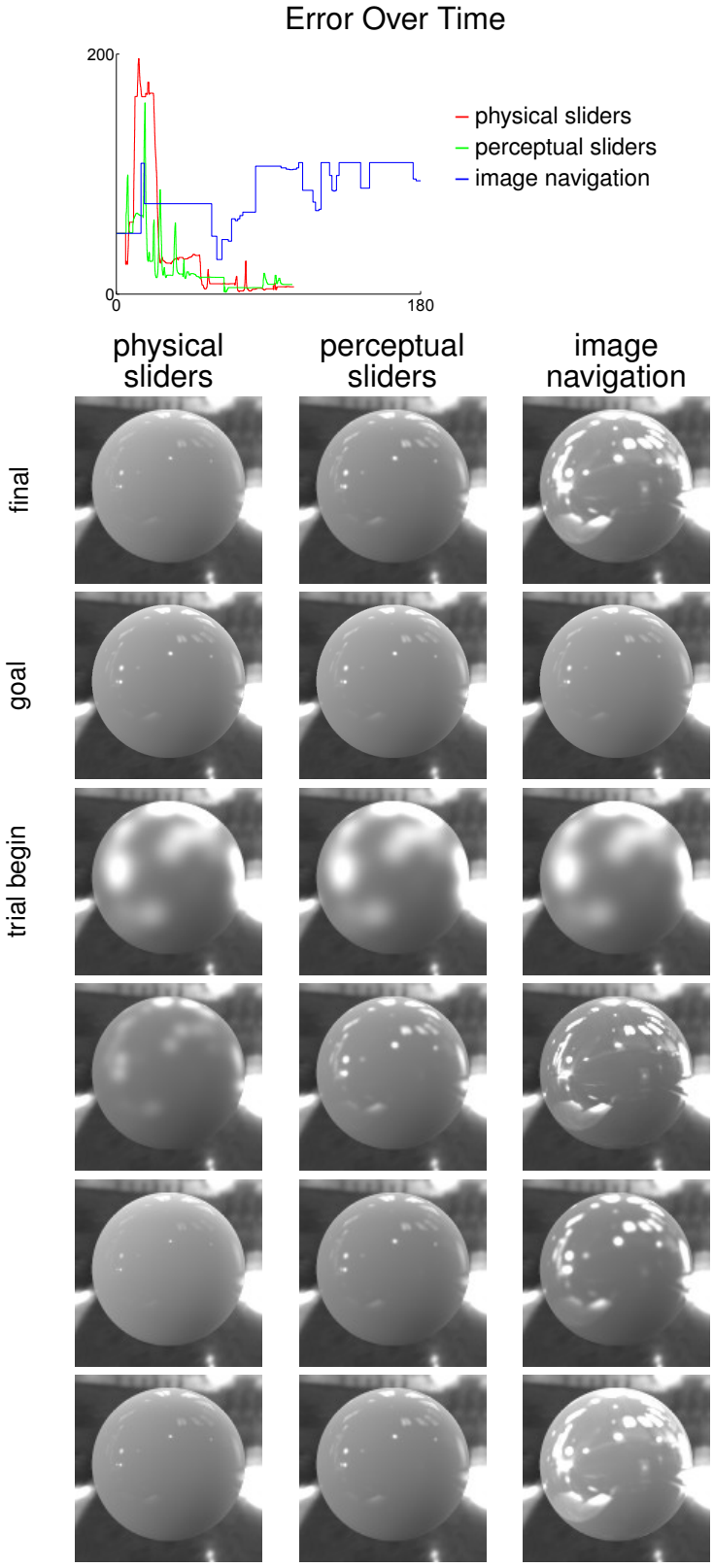


Subject 17

Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

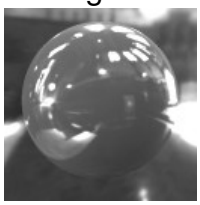
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

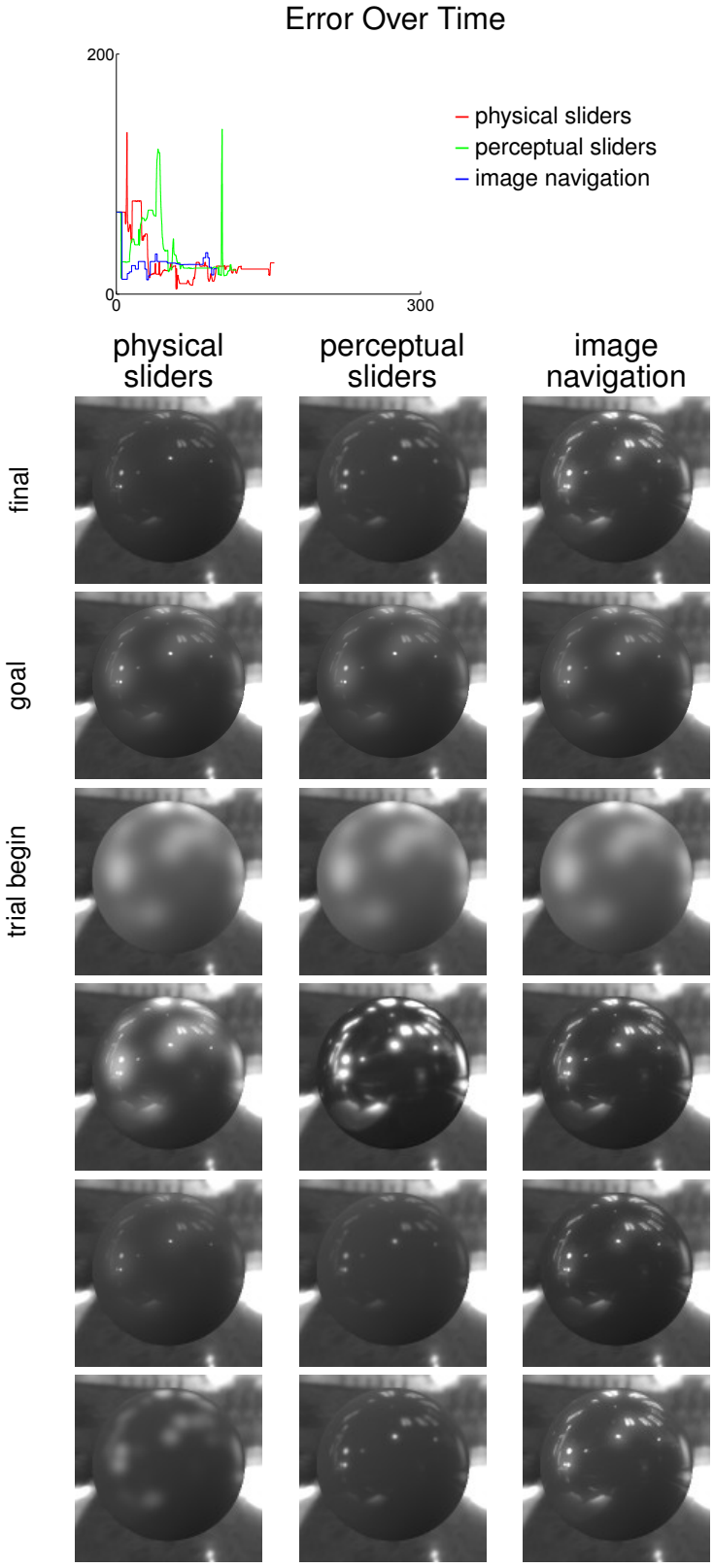
physical sliders

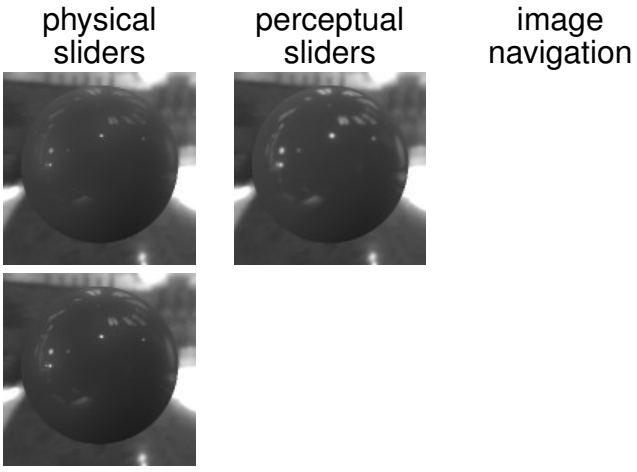
perceptual sliders

image navigation

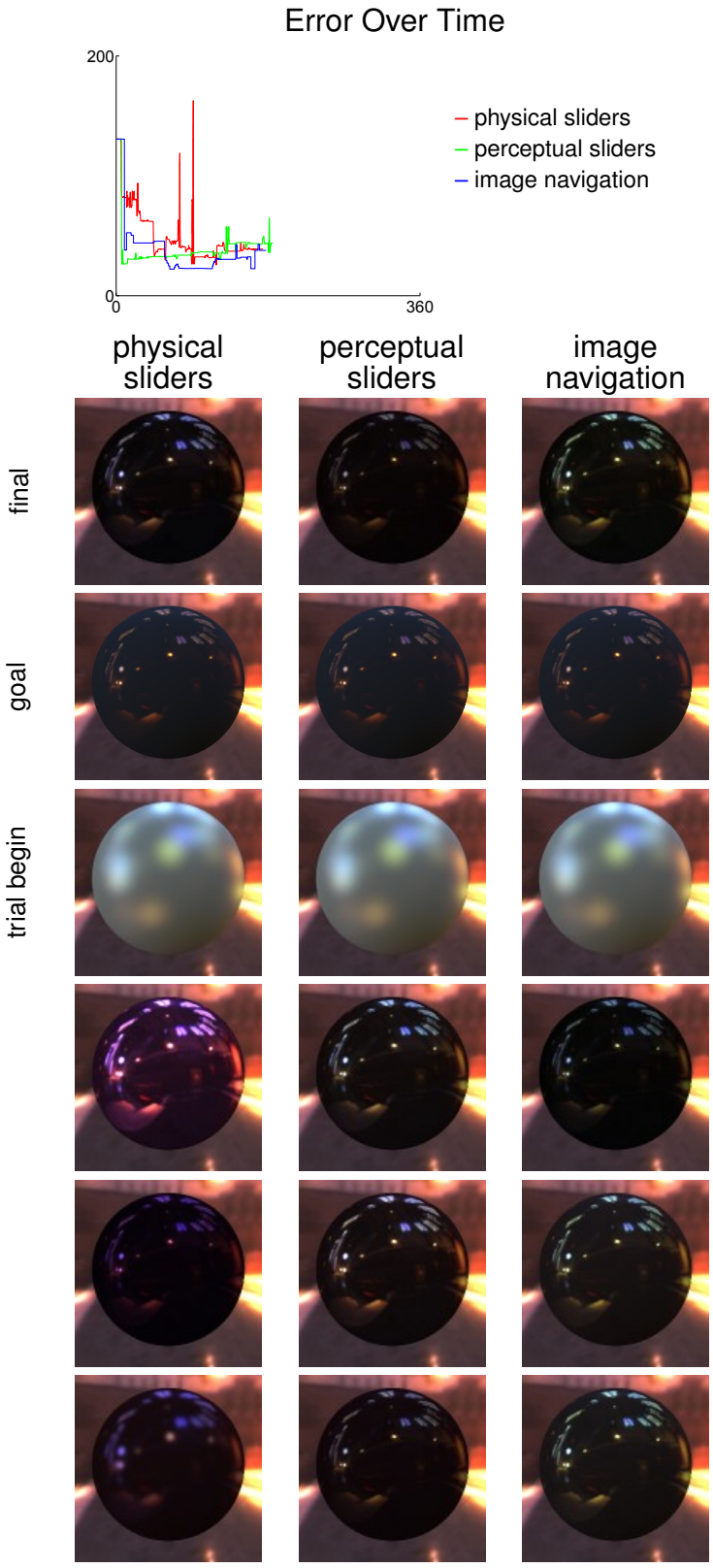


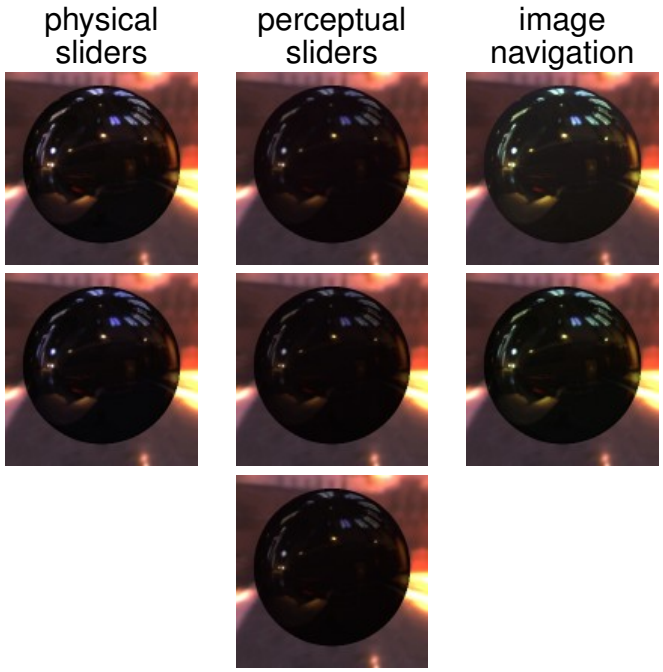
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

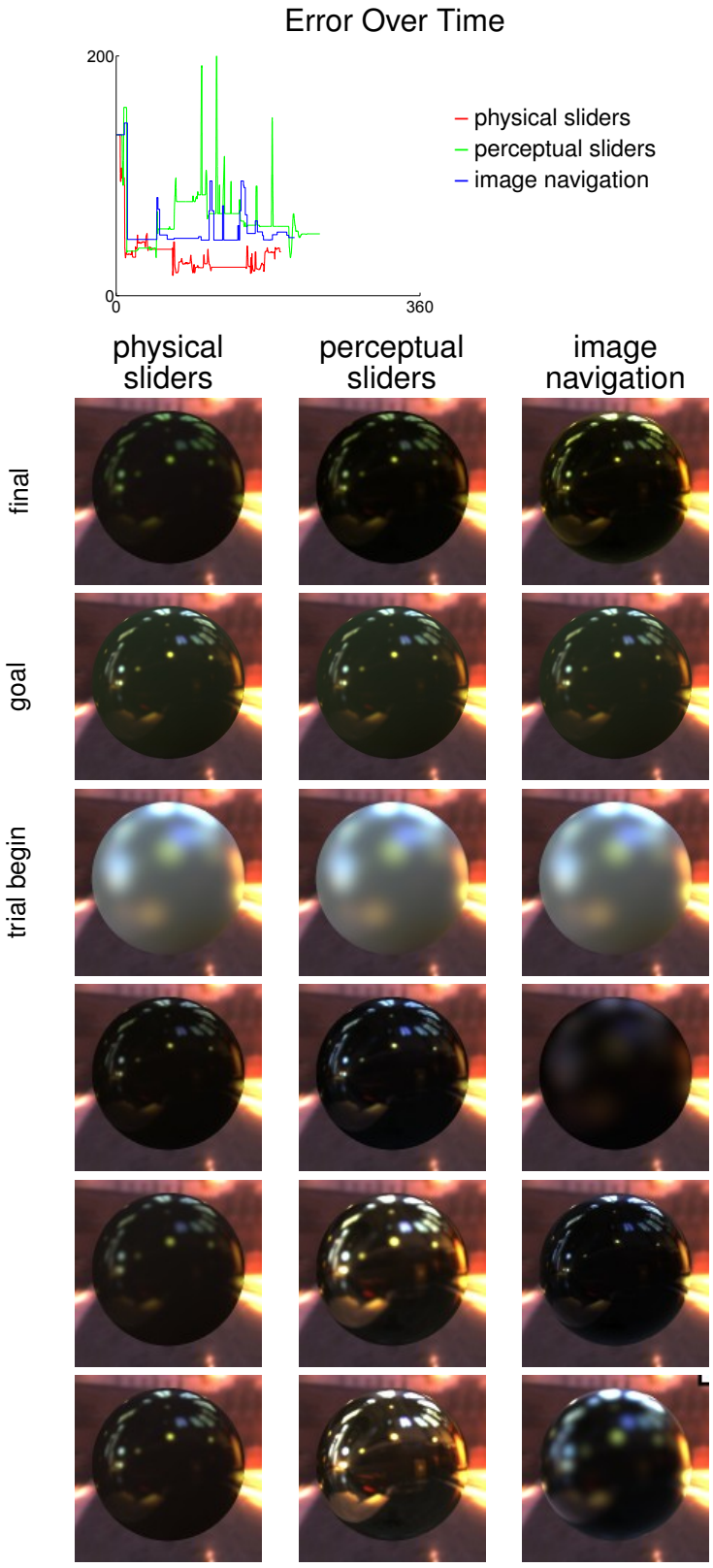

physical
sliders
perceptual
sliders
image
navigation

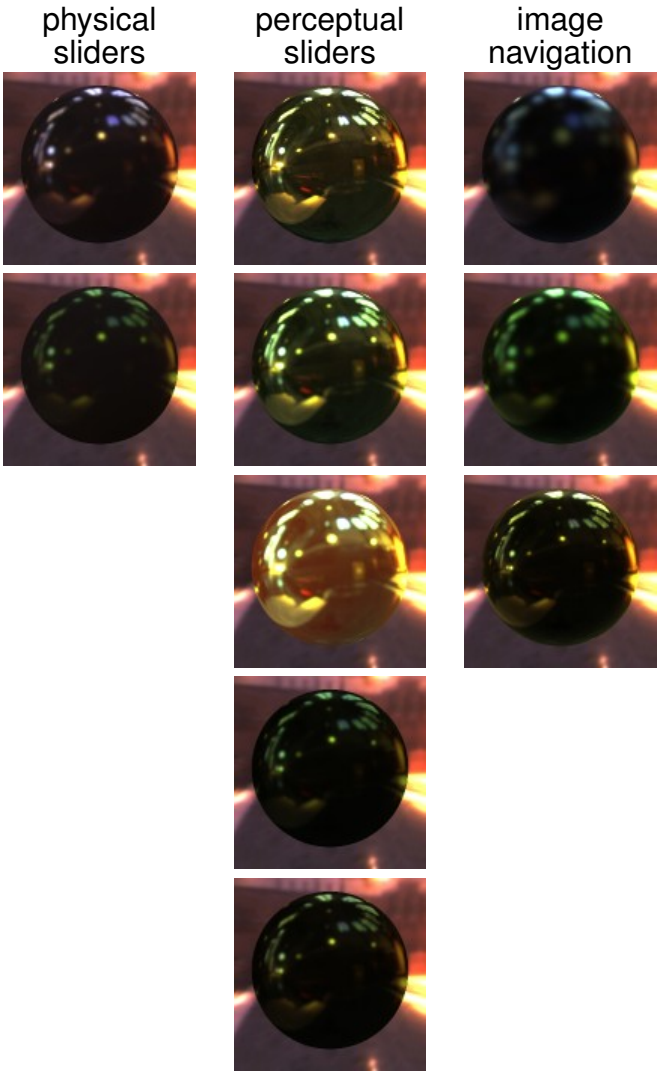
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

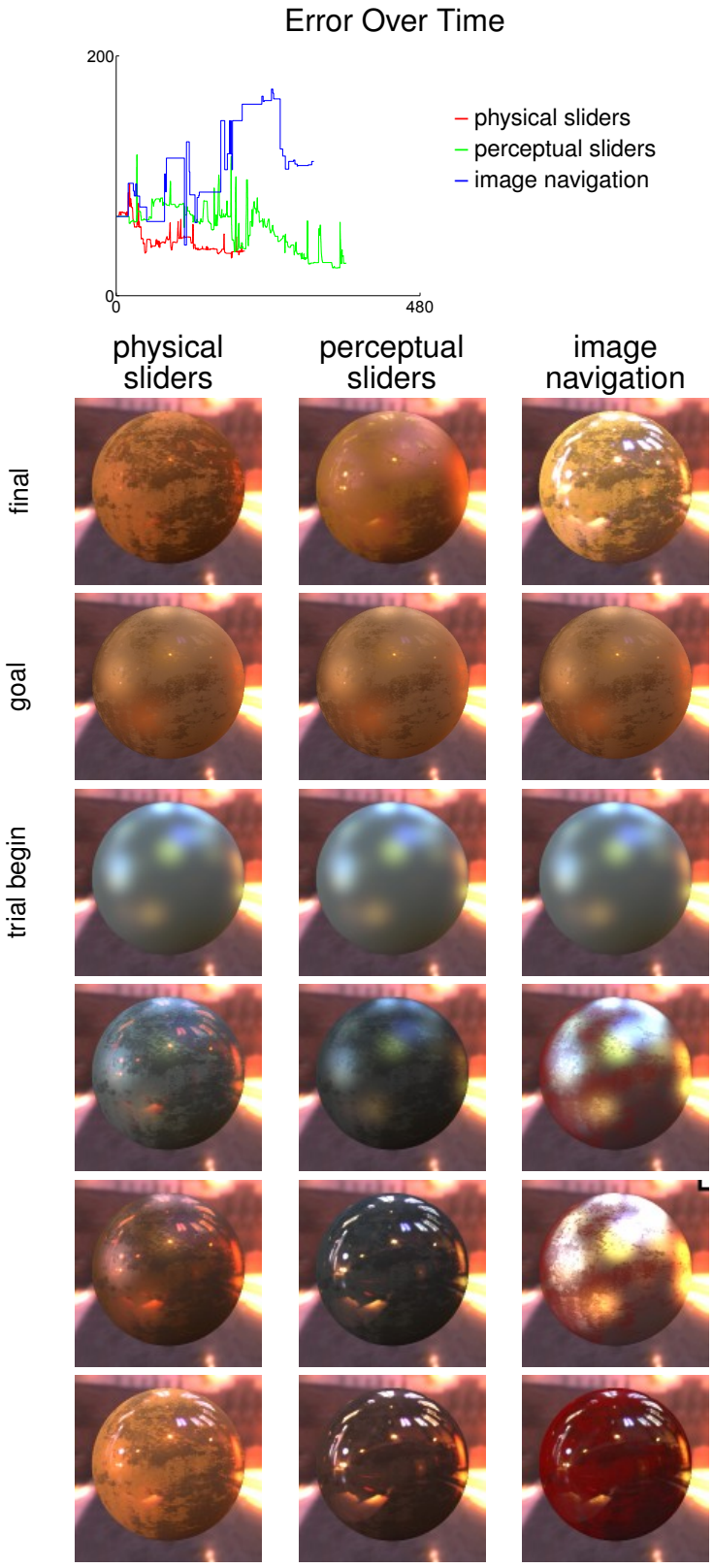

physical sliders
perceptual sliders
image navigation

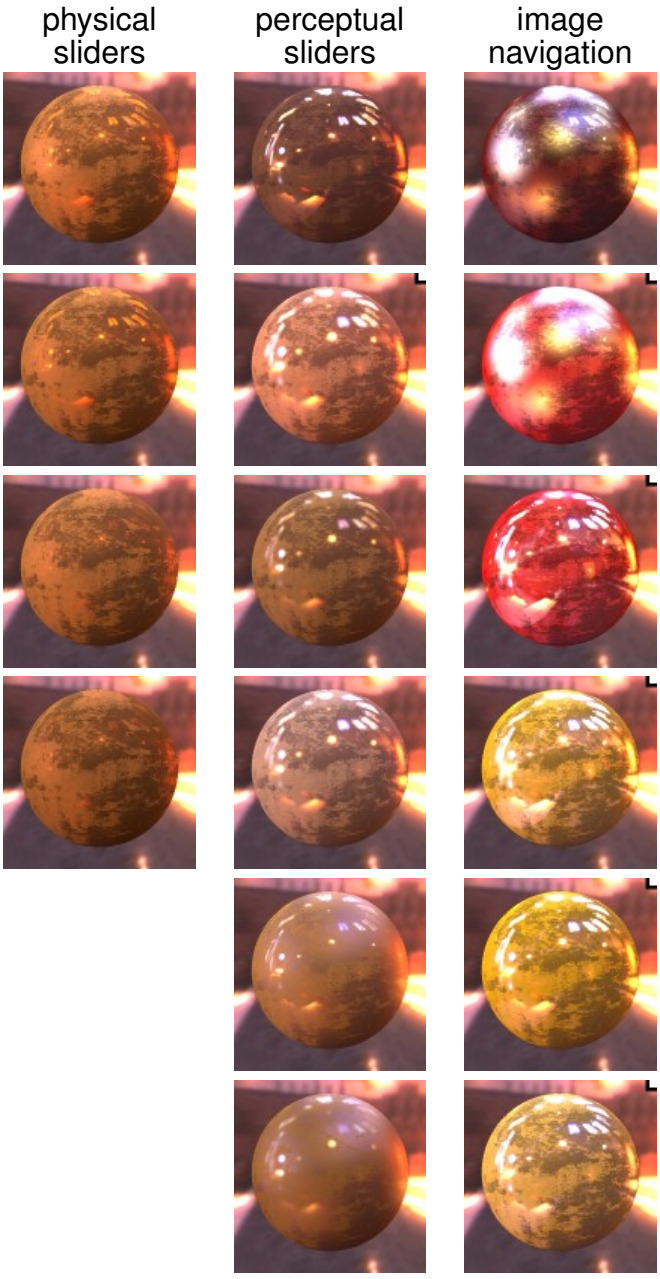
Trial 5


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

Trial 6

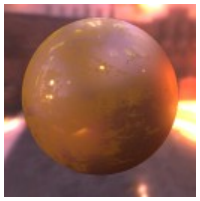

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

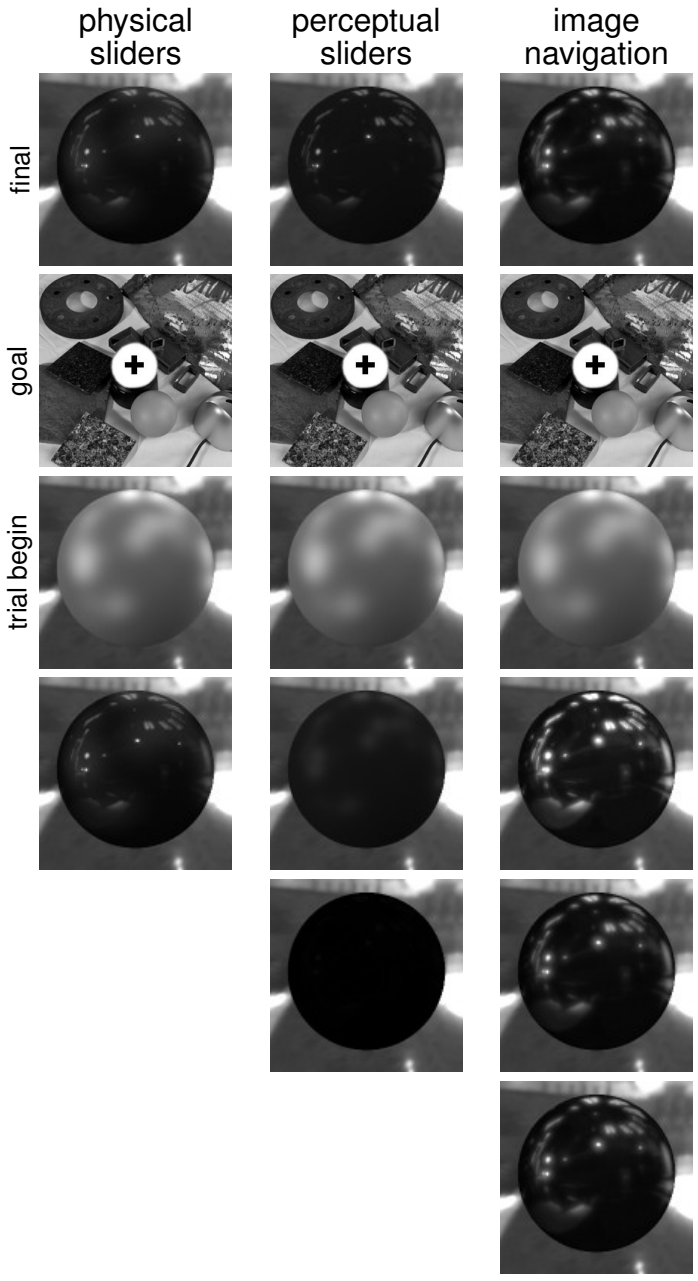
physical sliders

perceptual sliders

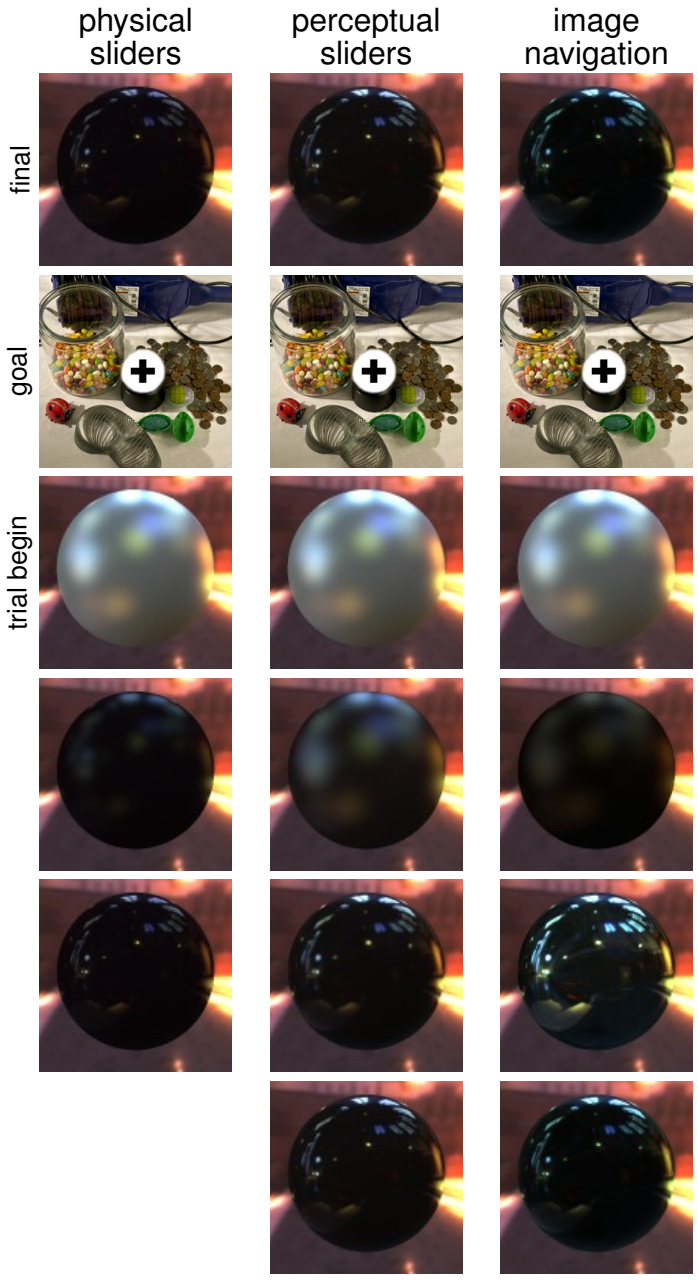
image navigation



Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

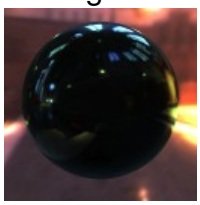
Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

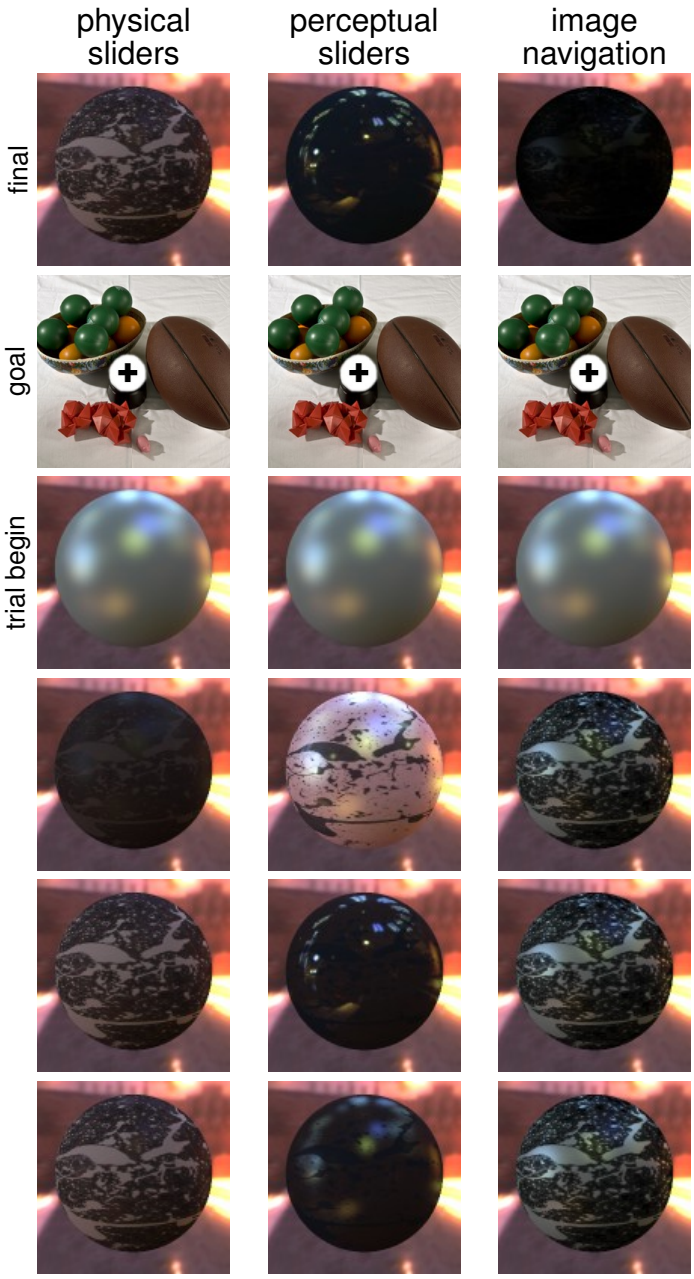
physical sliders

perceptual sliders

image navigation

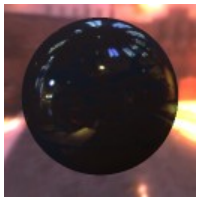


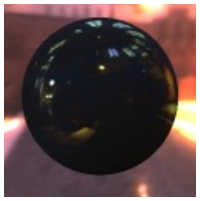
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders





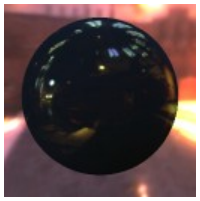
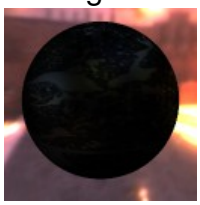
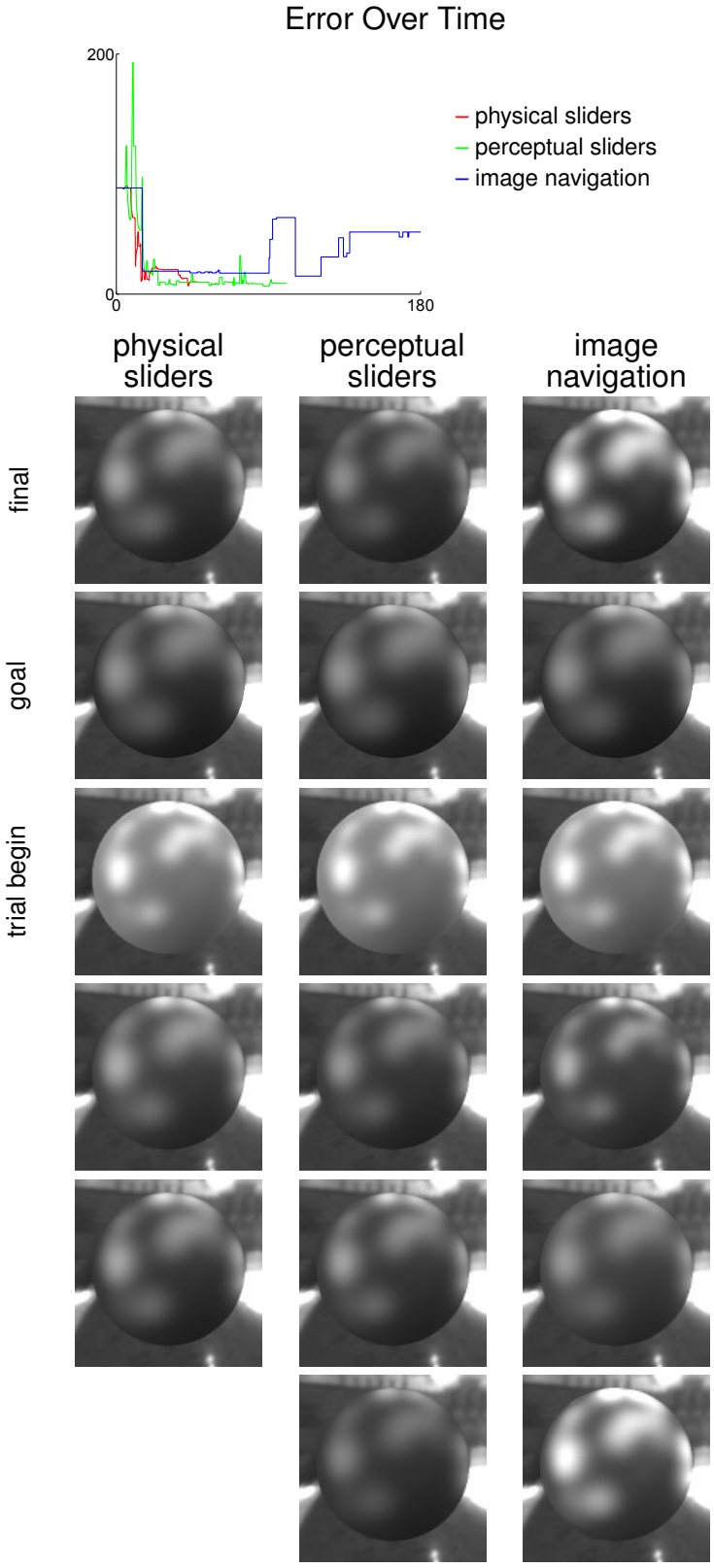


image navigation



Subject 18

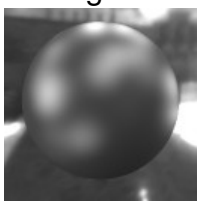
Trial 1

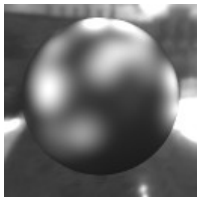

Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

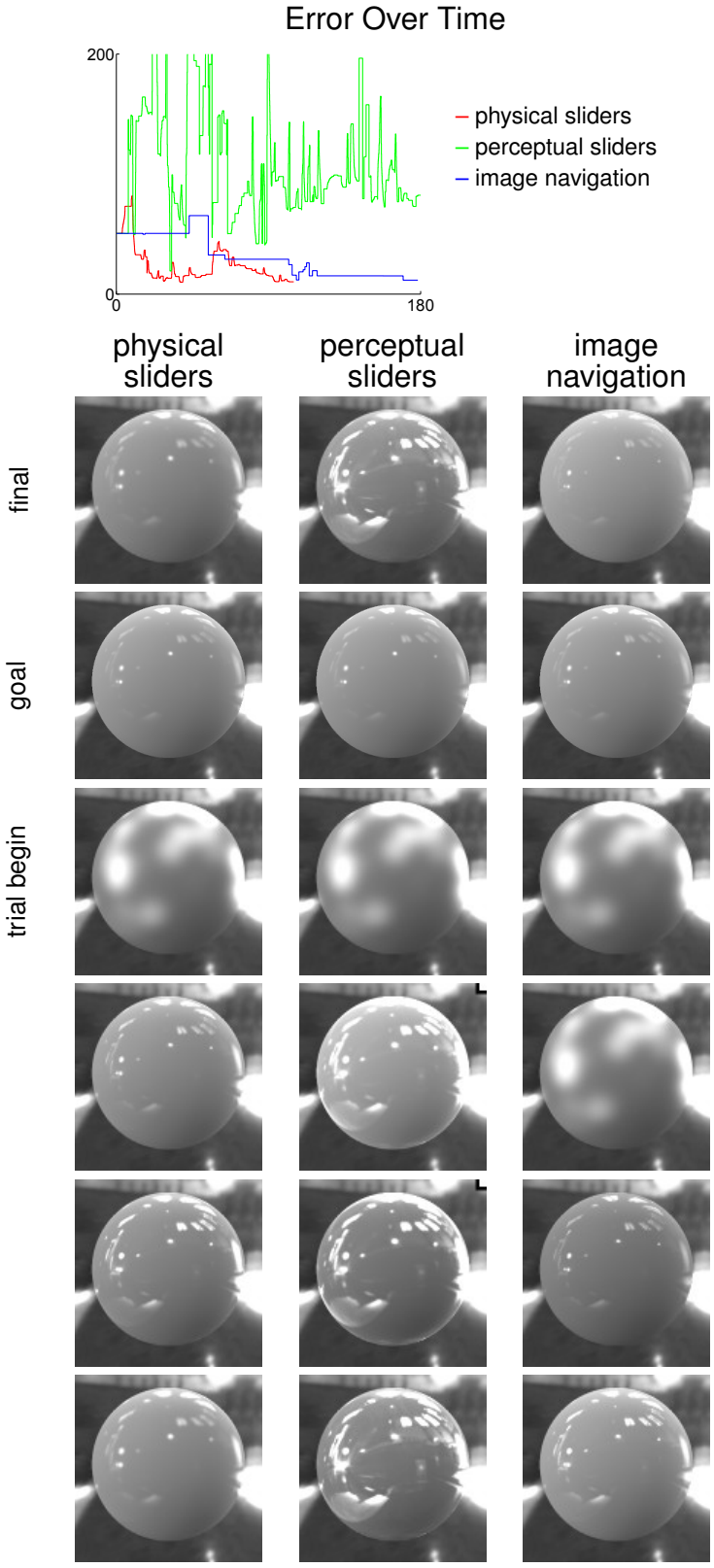
perceptual sliders

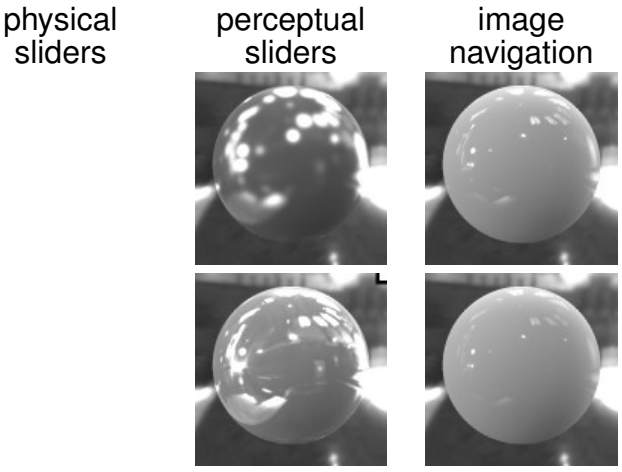
image navigation



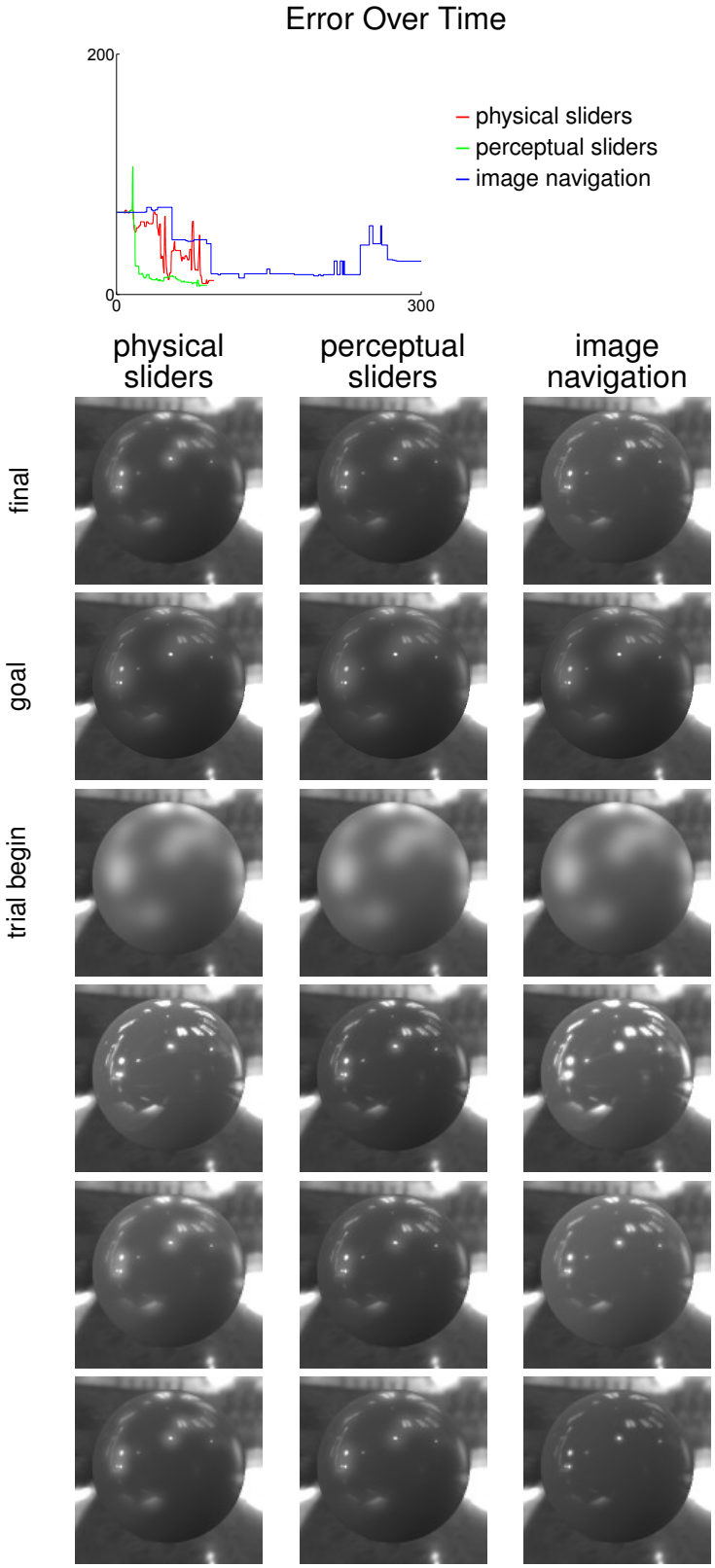


Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

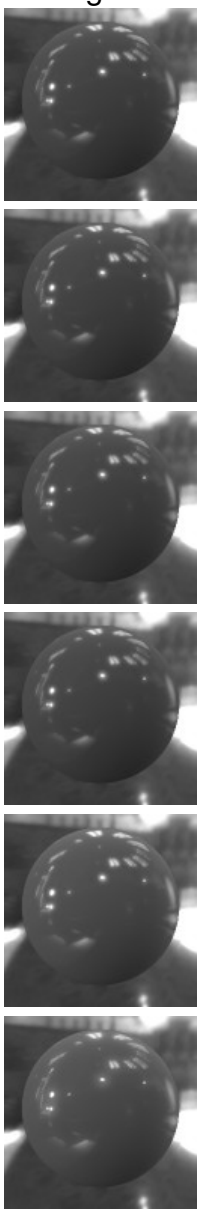
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

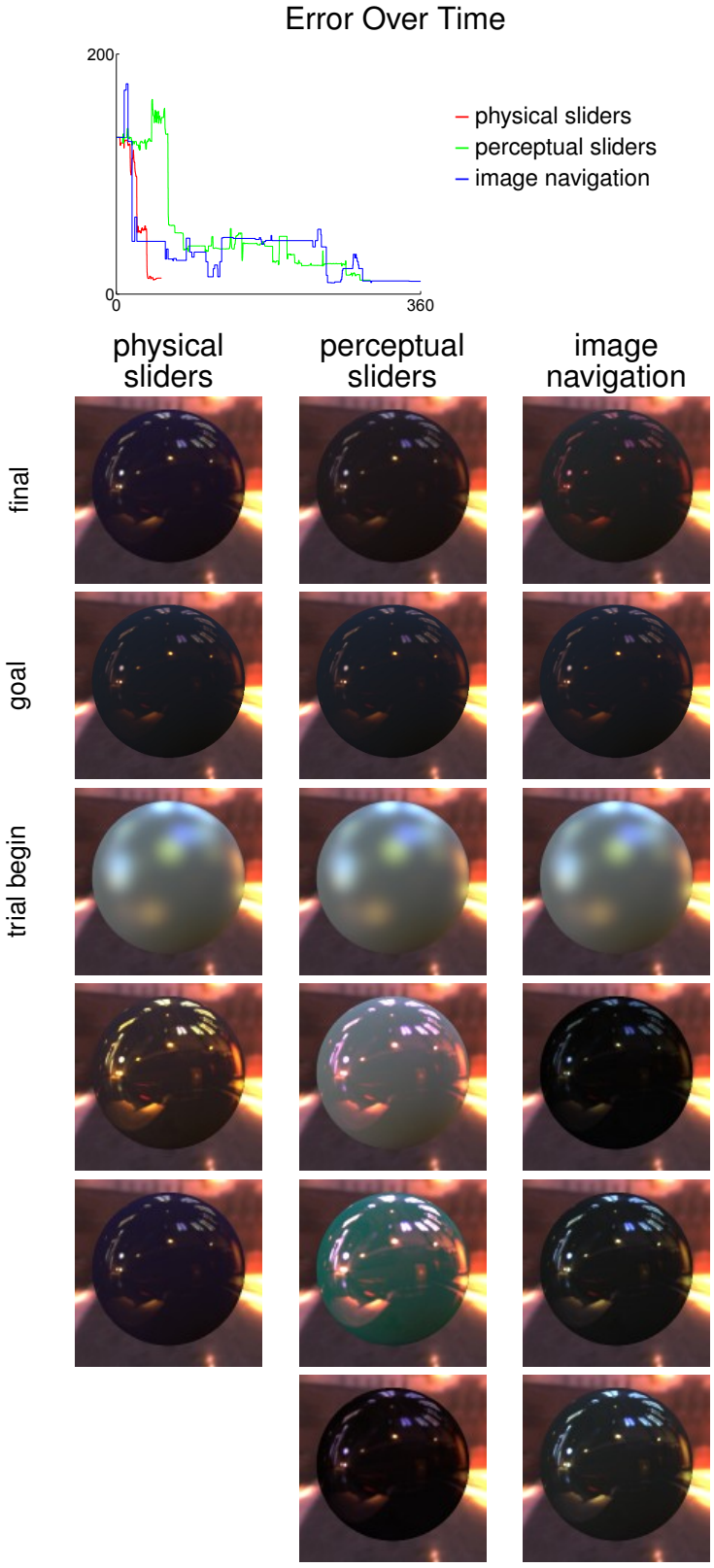
physical sliders

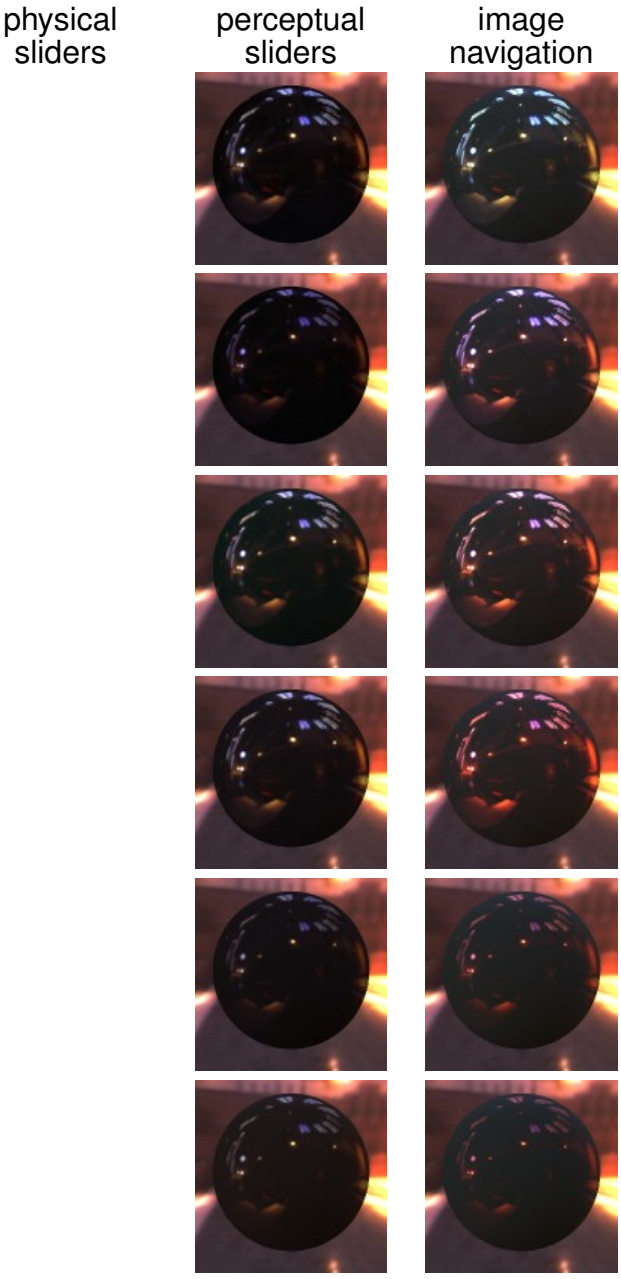
perceptual sliders

image navigation



Trial 4

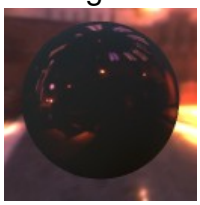

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

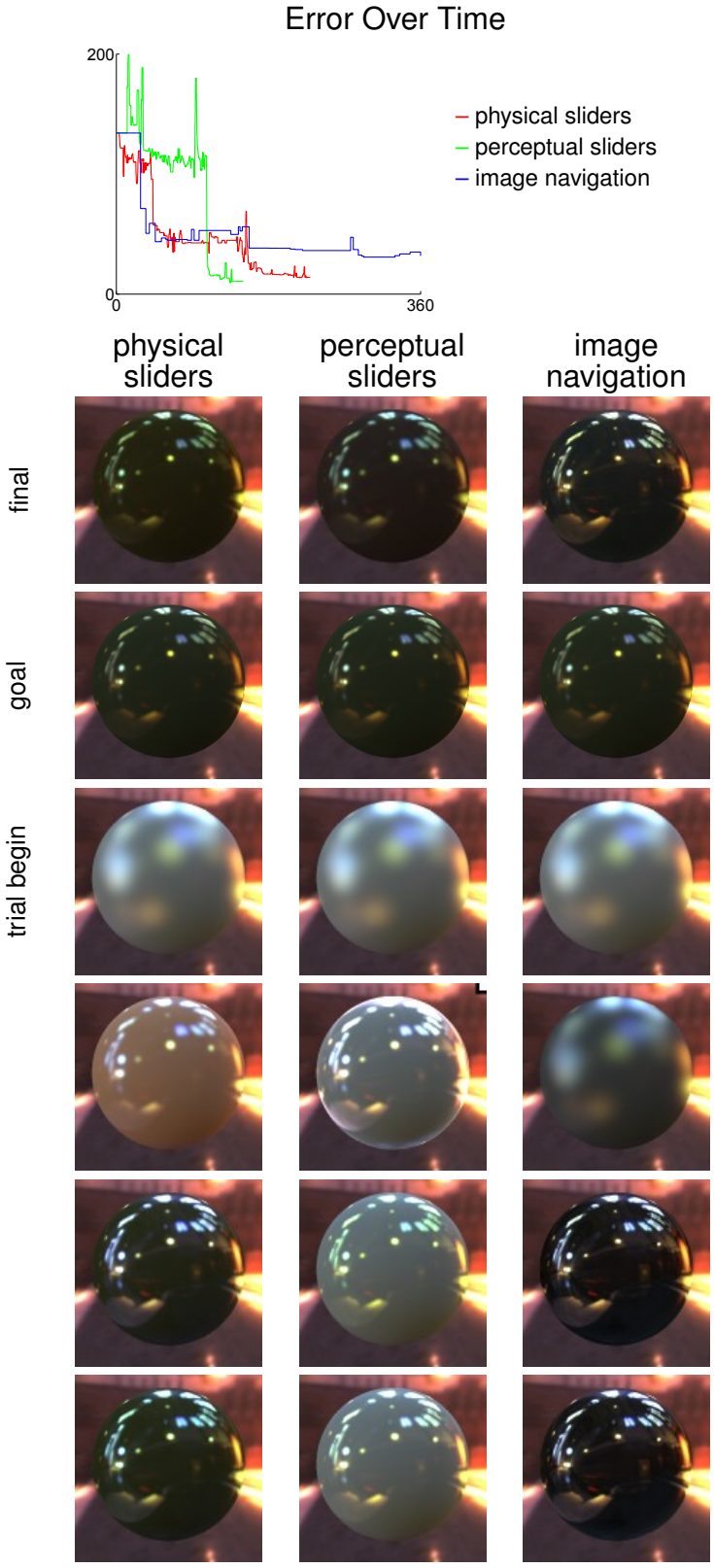
physical sliders

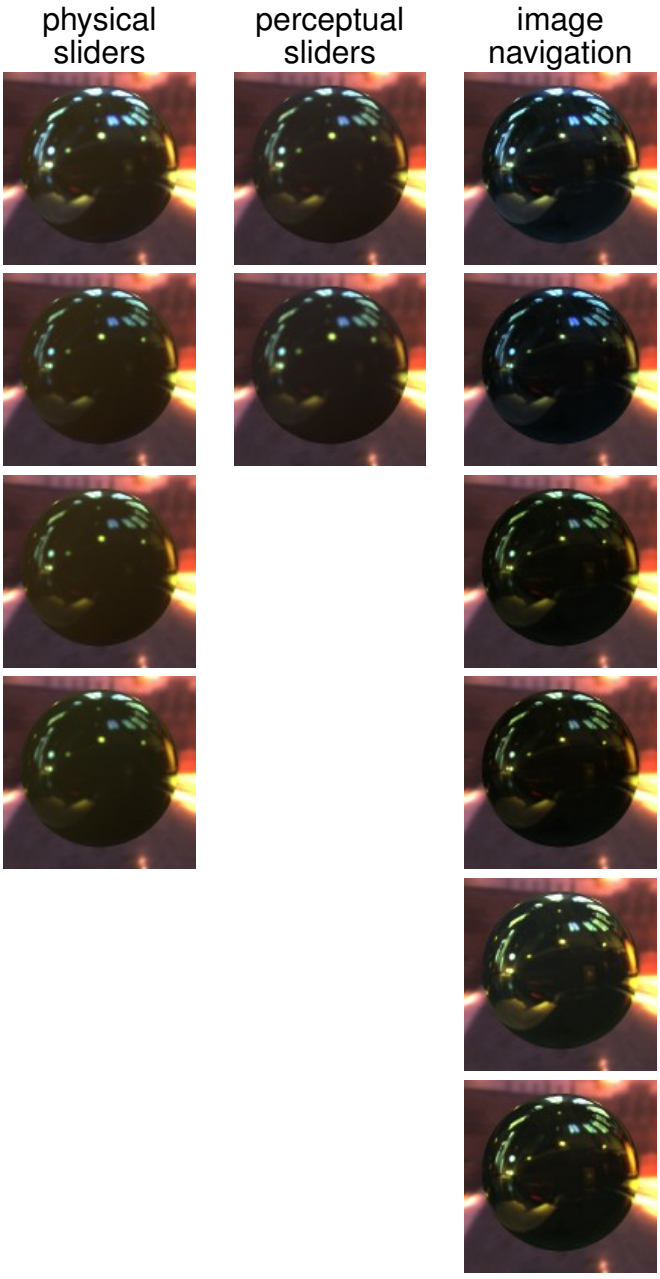
perceptual sliders

image navigation



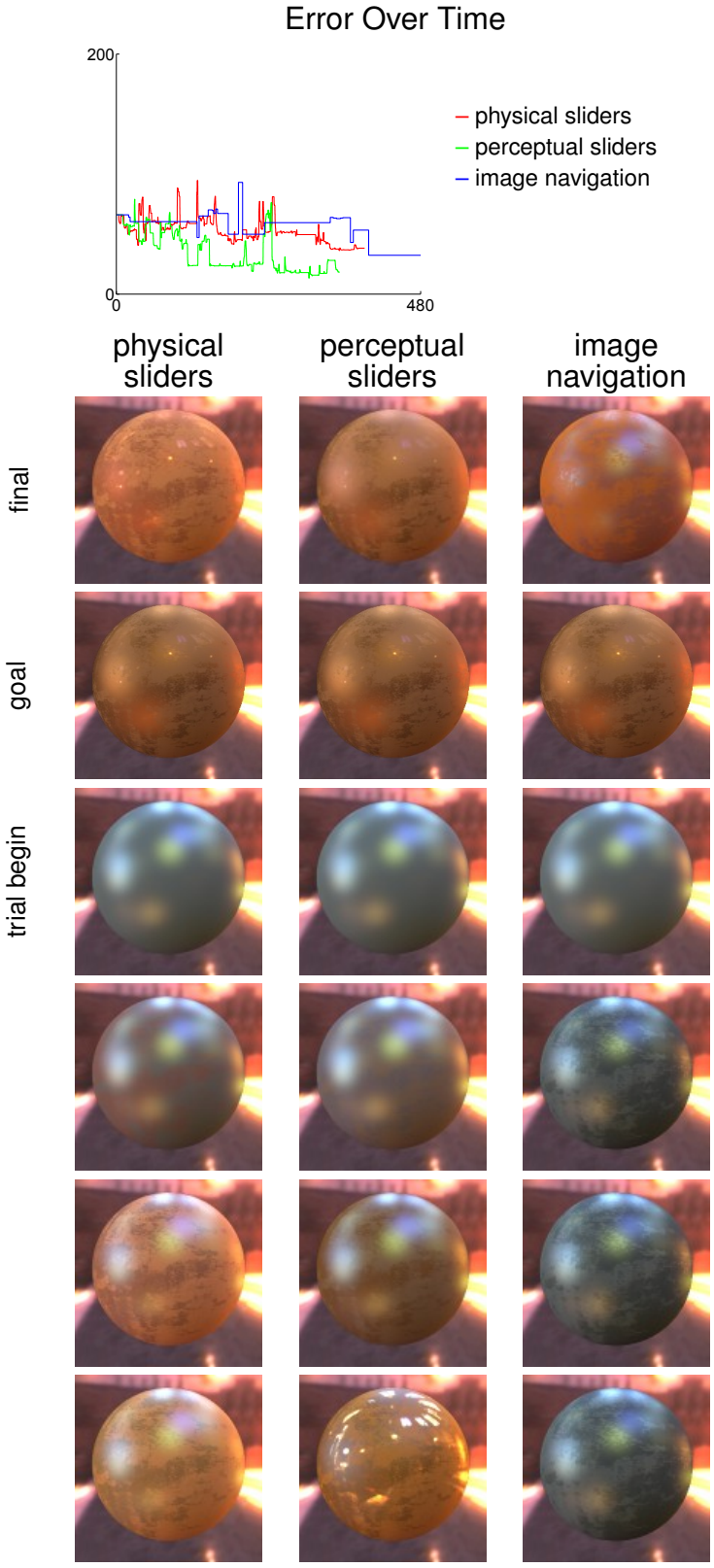
Trial 5

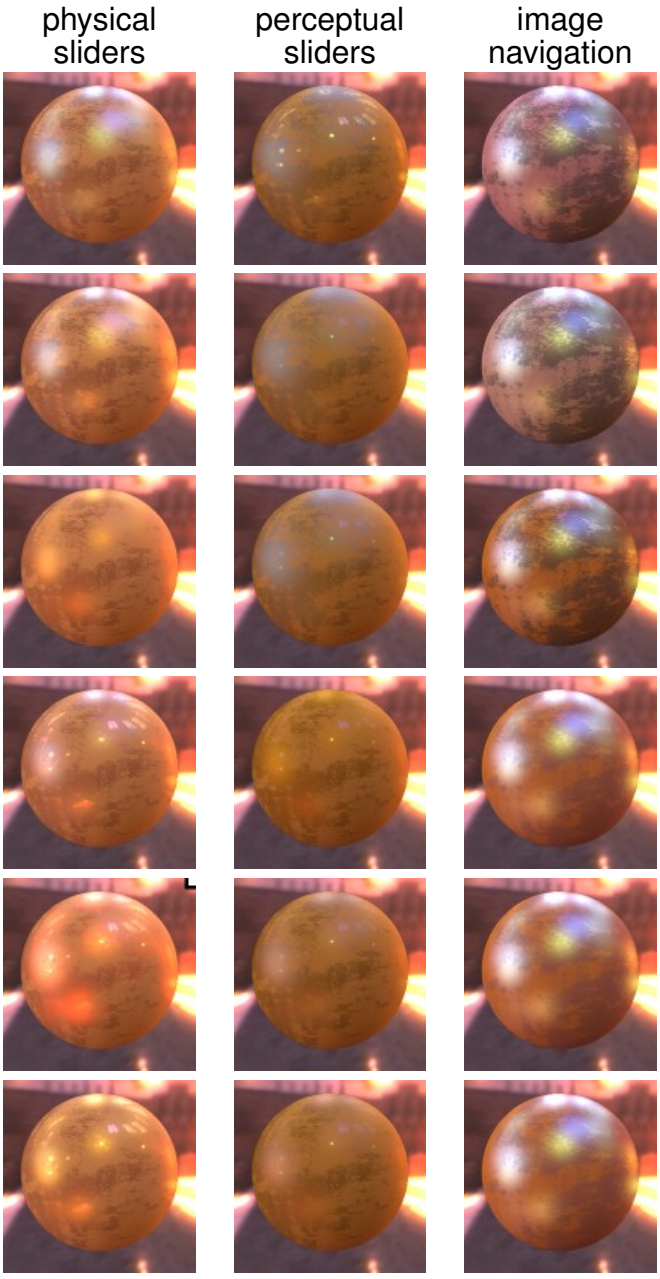

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

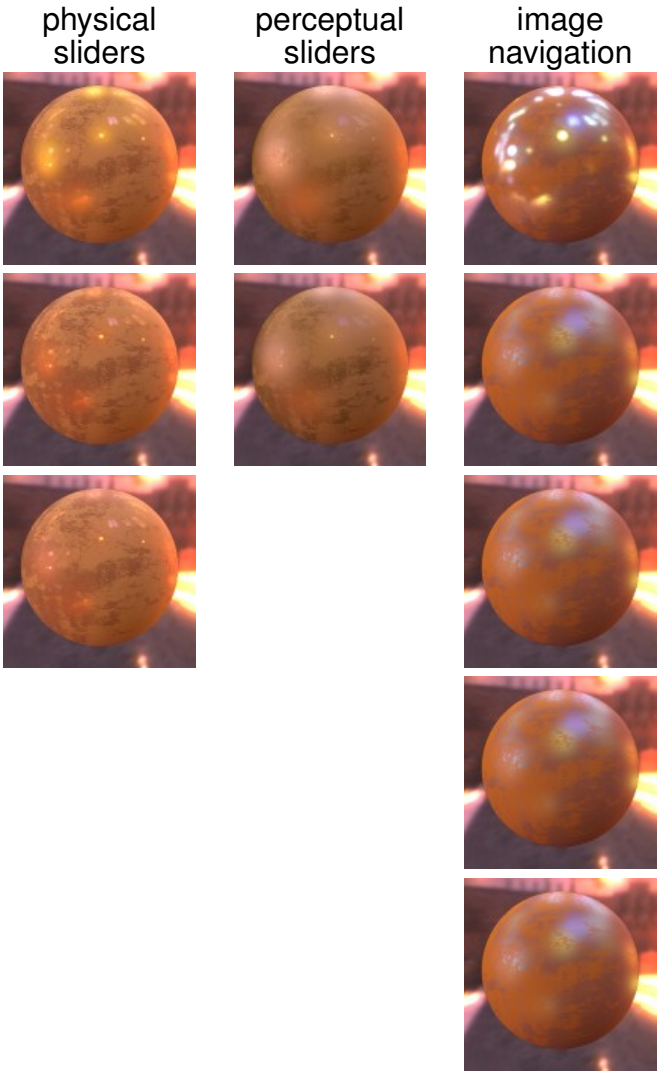

physical sliders
perceptual sliders
image navigation

physical sliders	perceptual sliders	image navigation

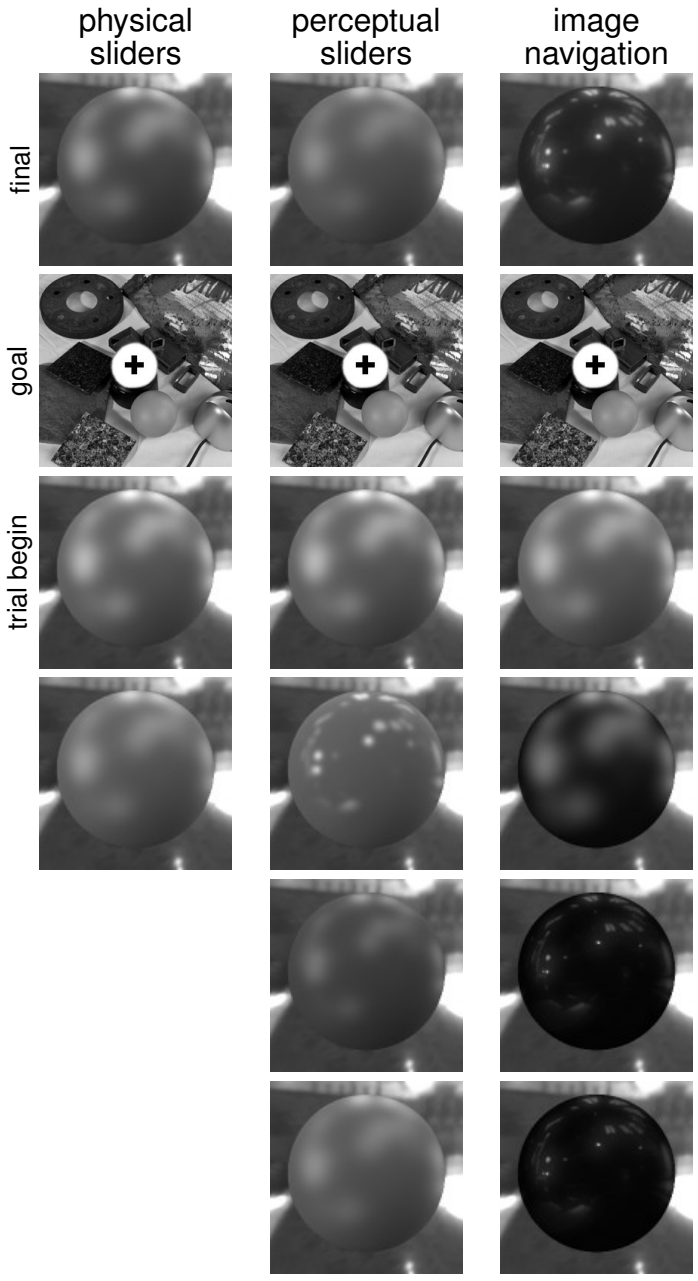
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

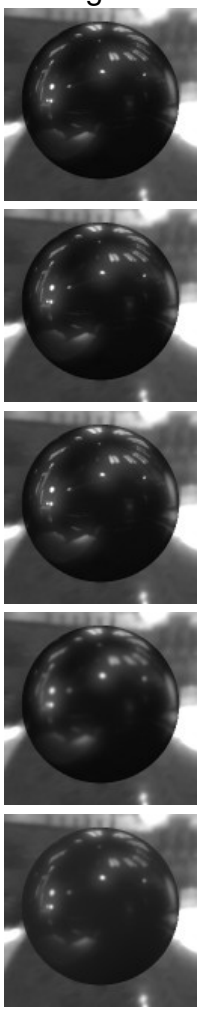
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

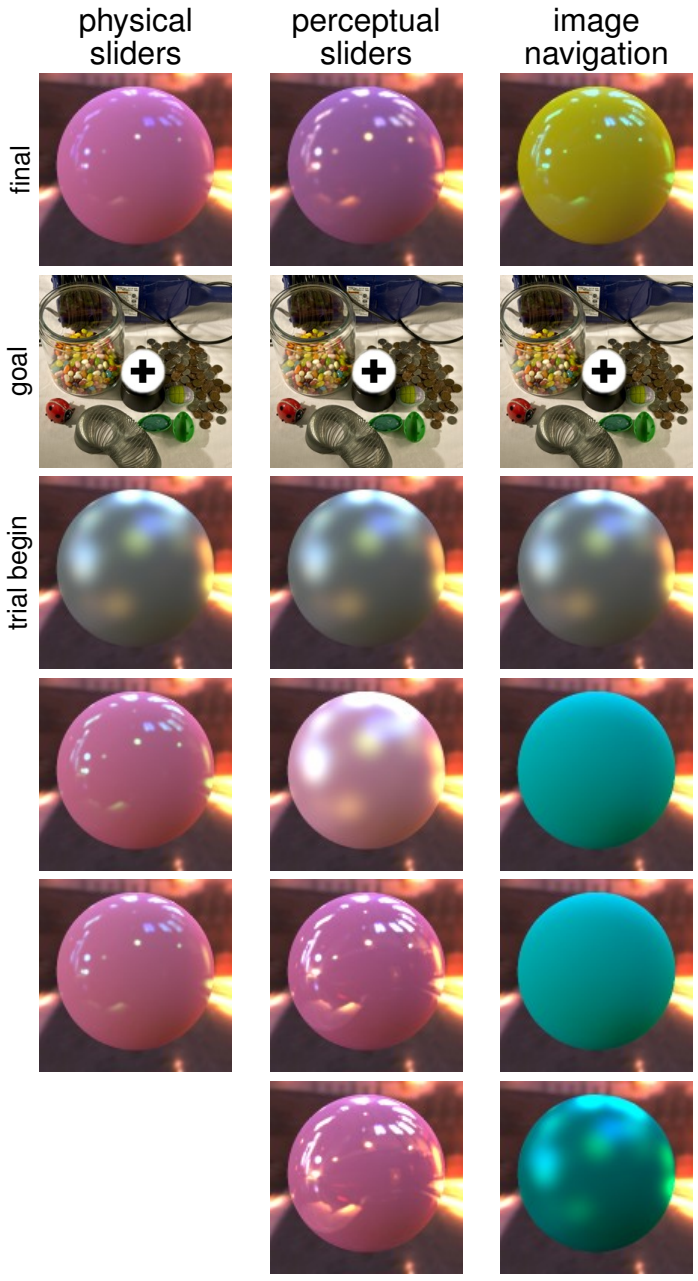
physical sliders

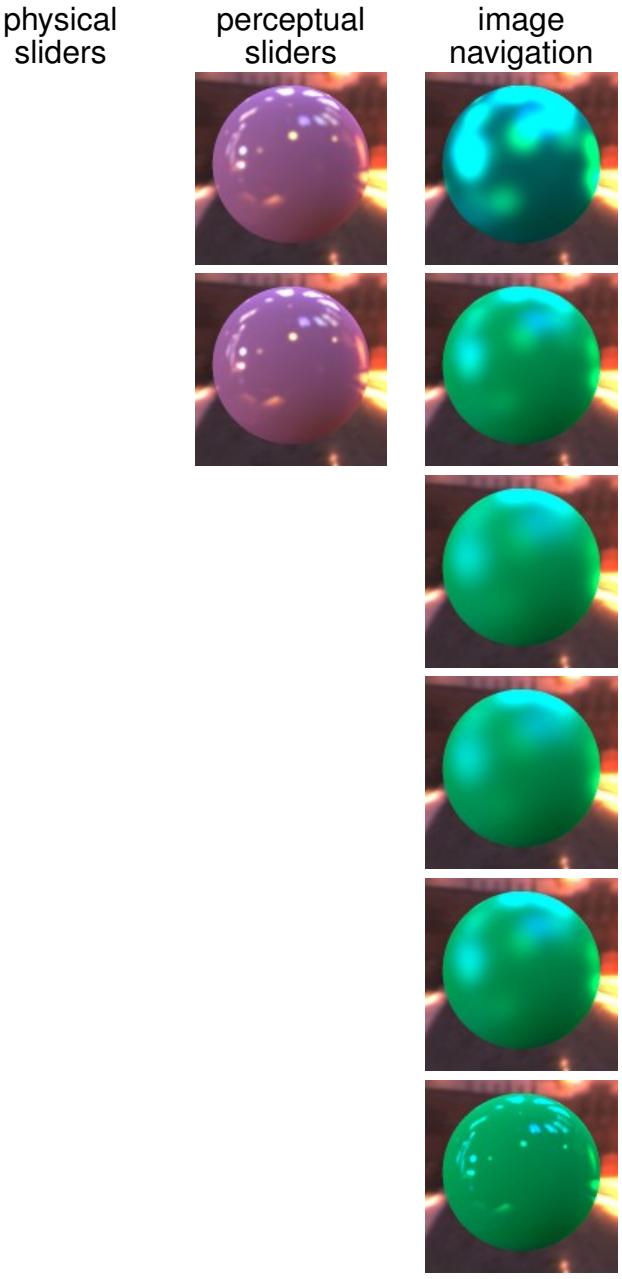
perceptual sliders

image navigation



Trial 8

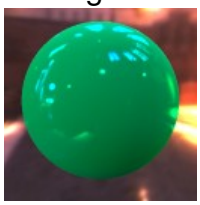

physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

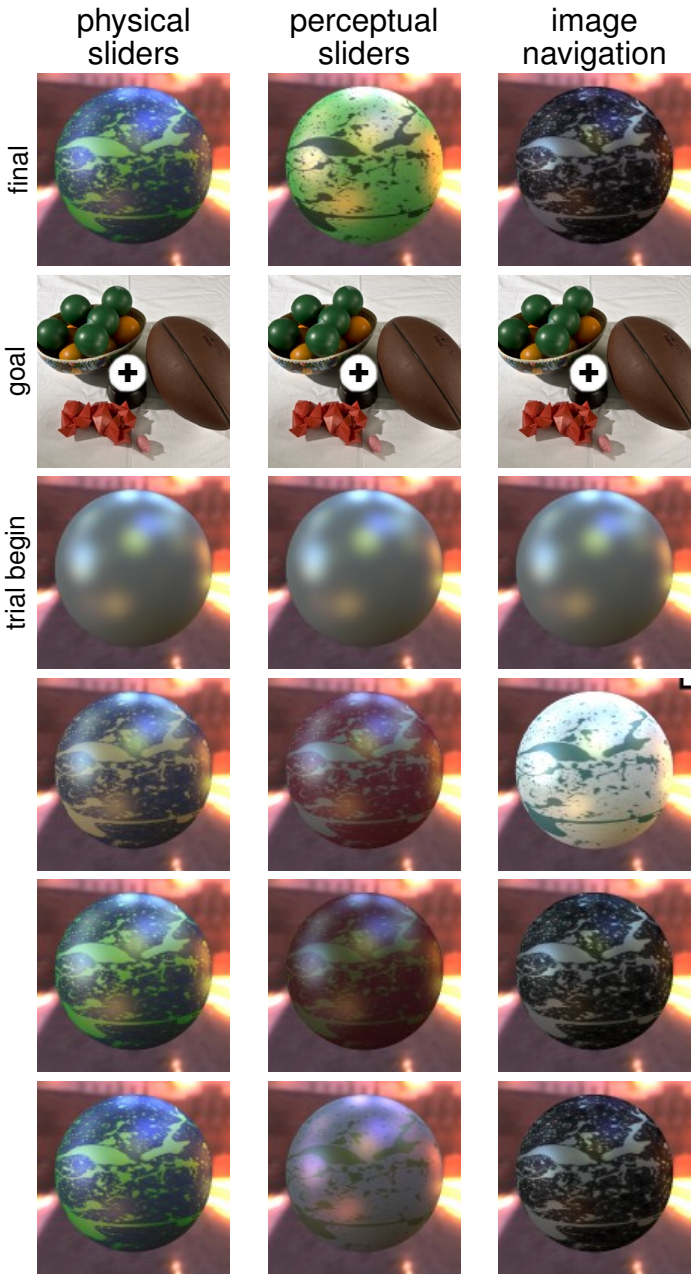
physical sliders

perceptual sliders

image navigation



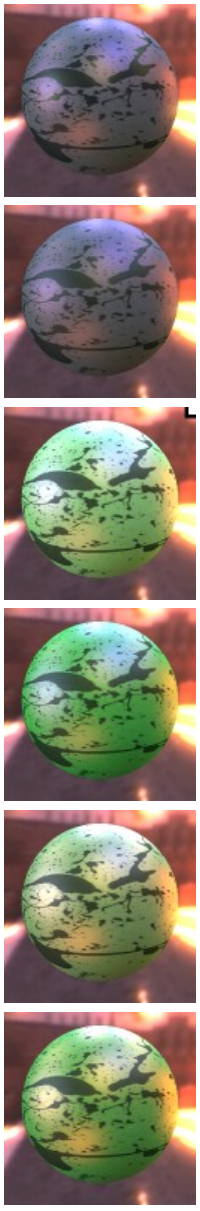
Trial 9

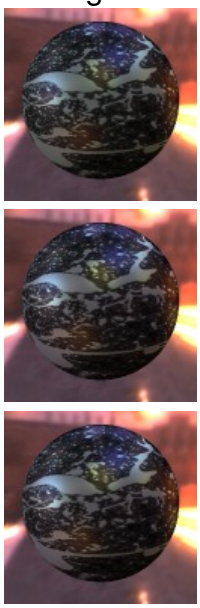

physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders

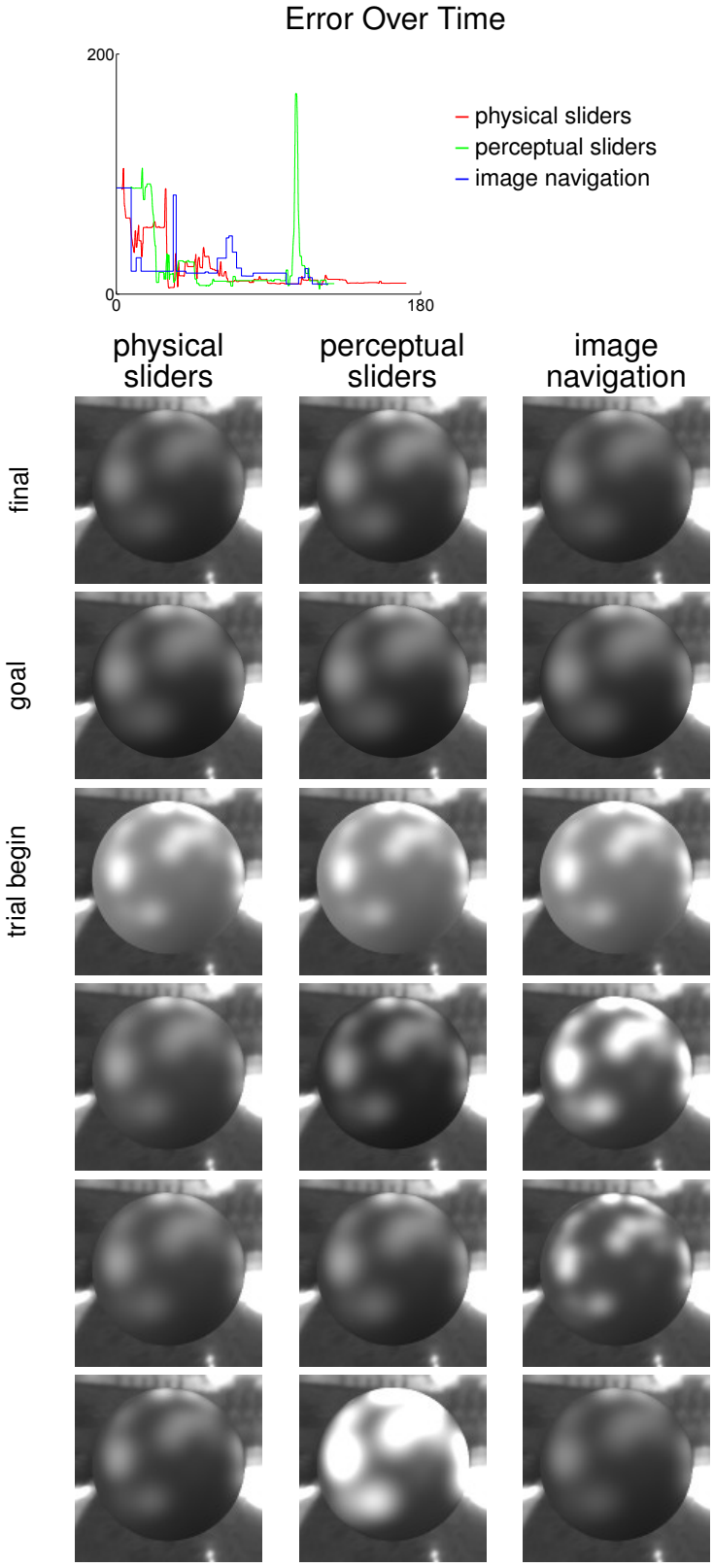
image navigation

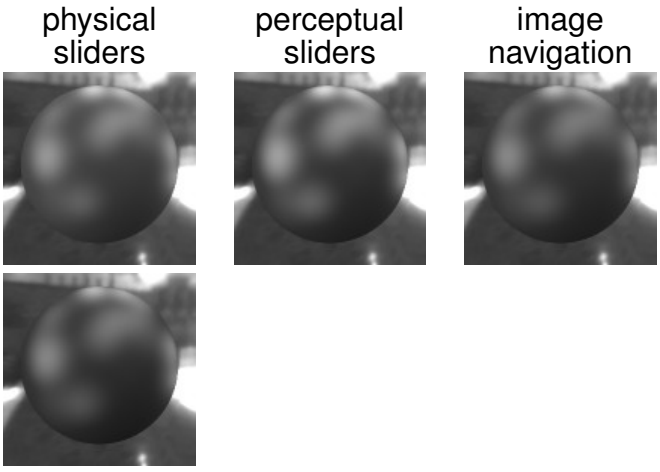




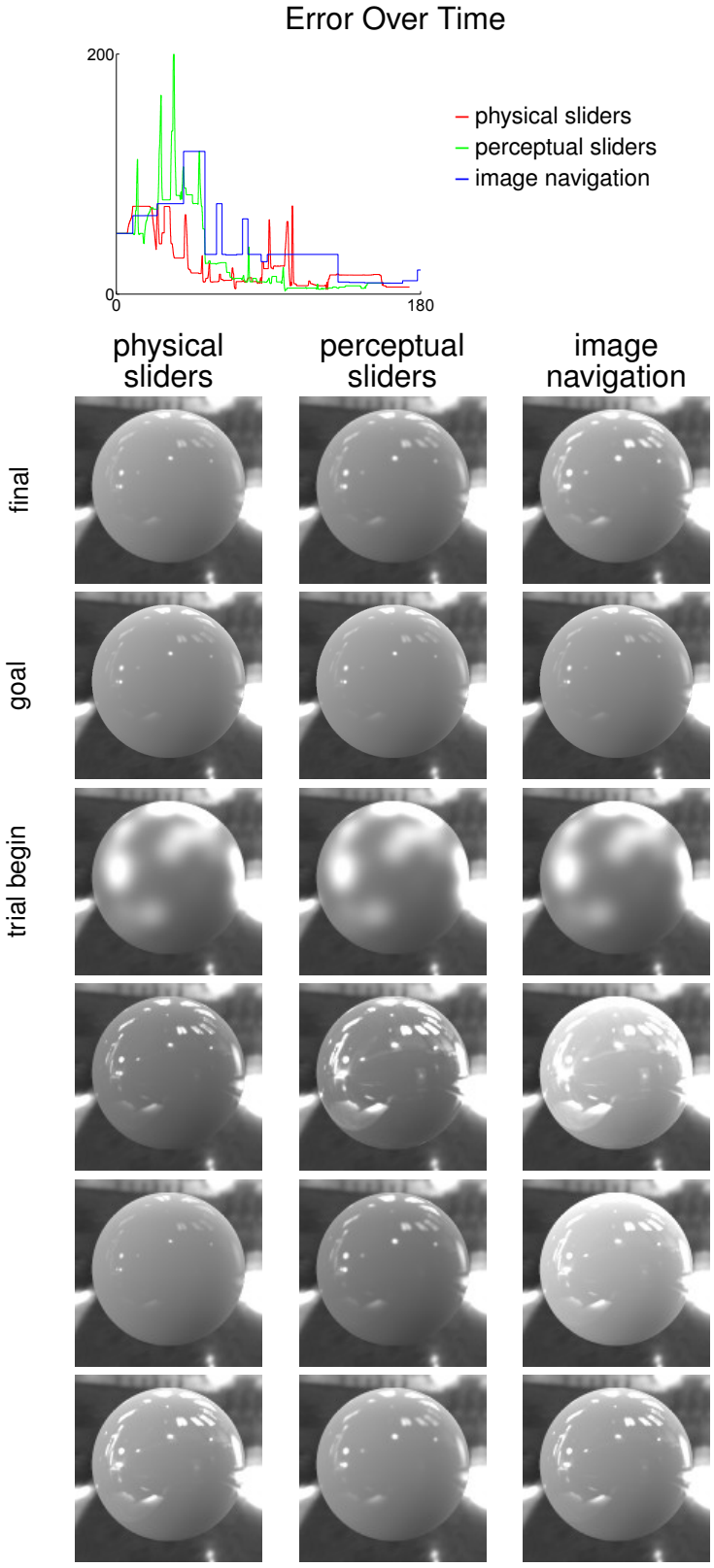
Subject 19

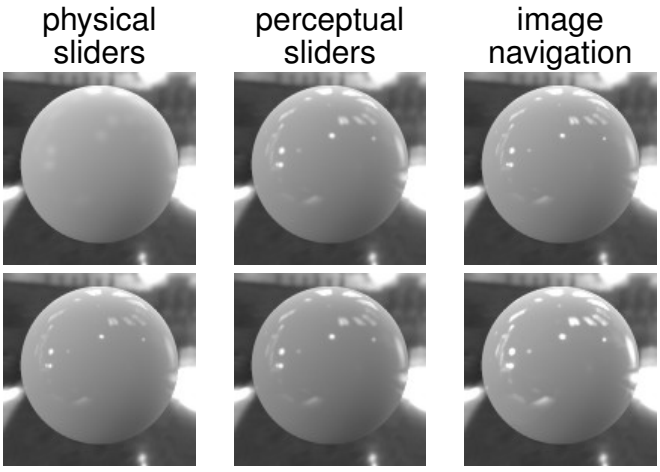
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

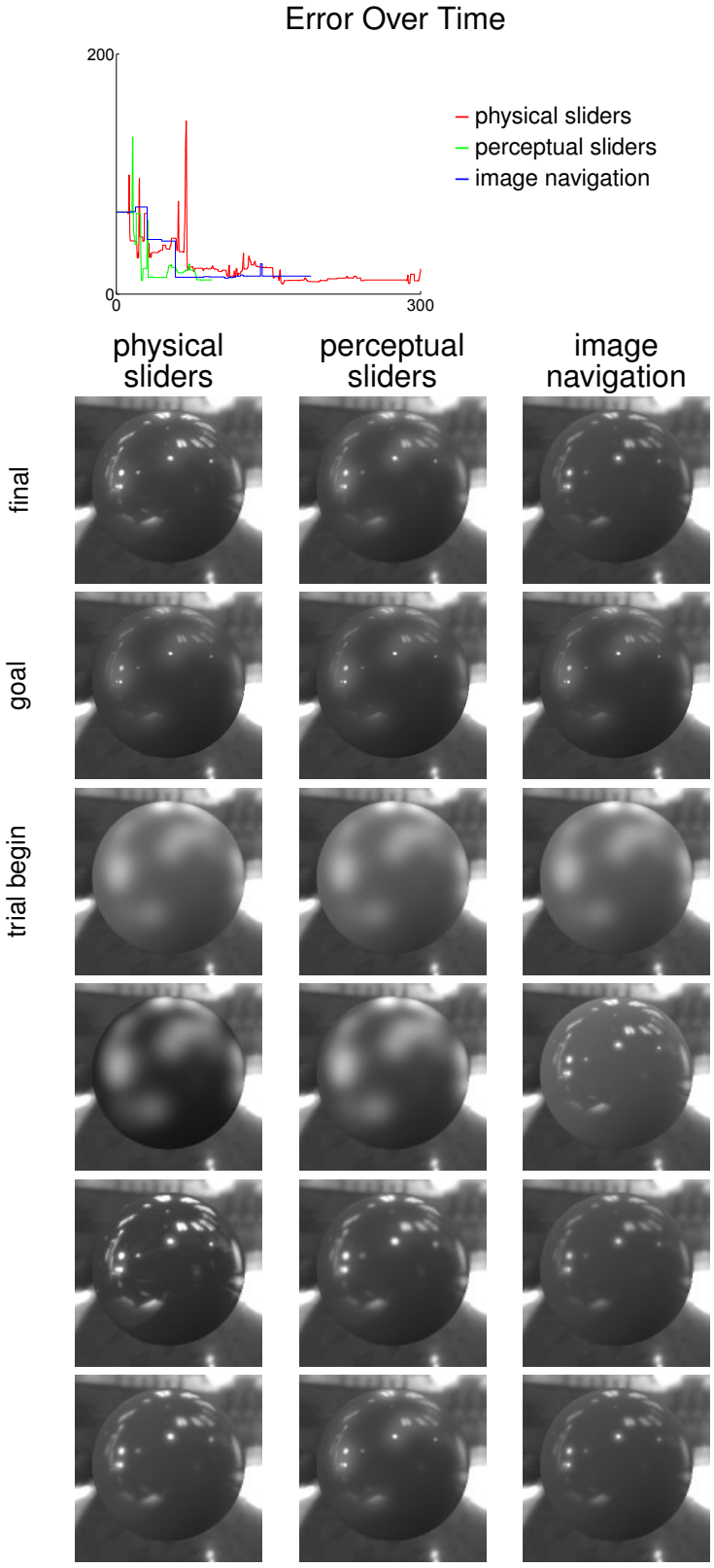

physical sliders
perceptual sliders
image navigation

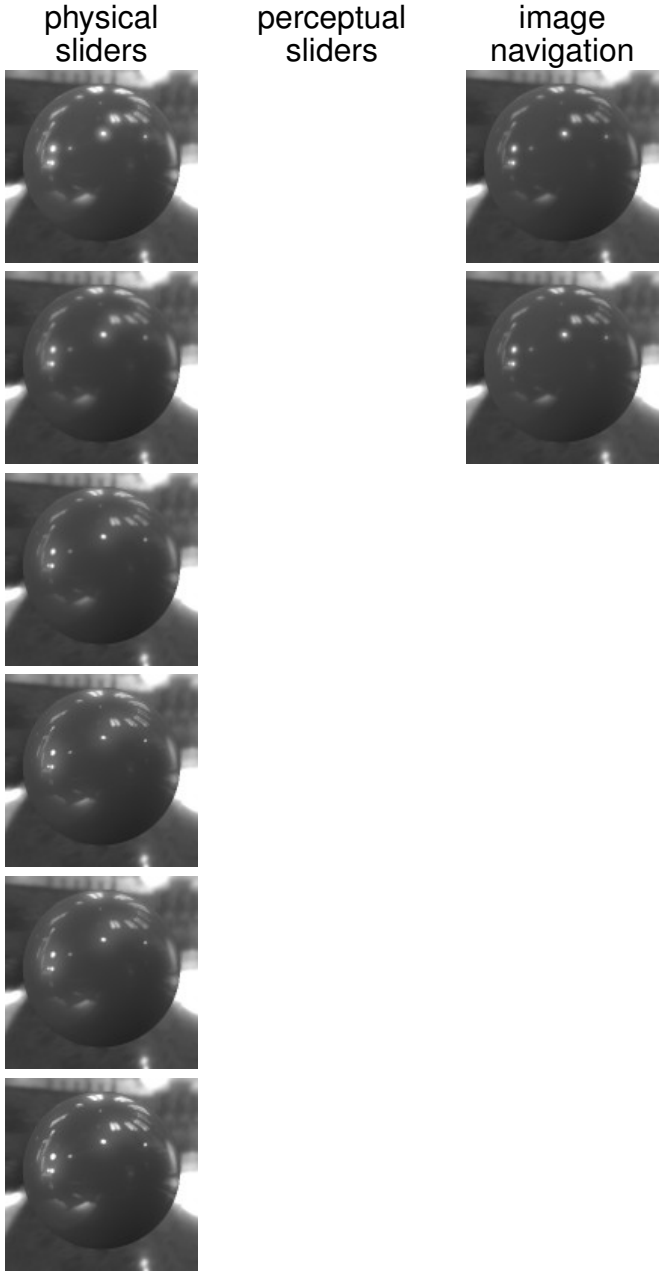
Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

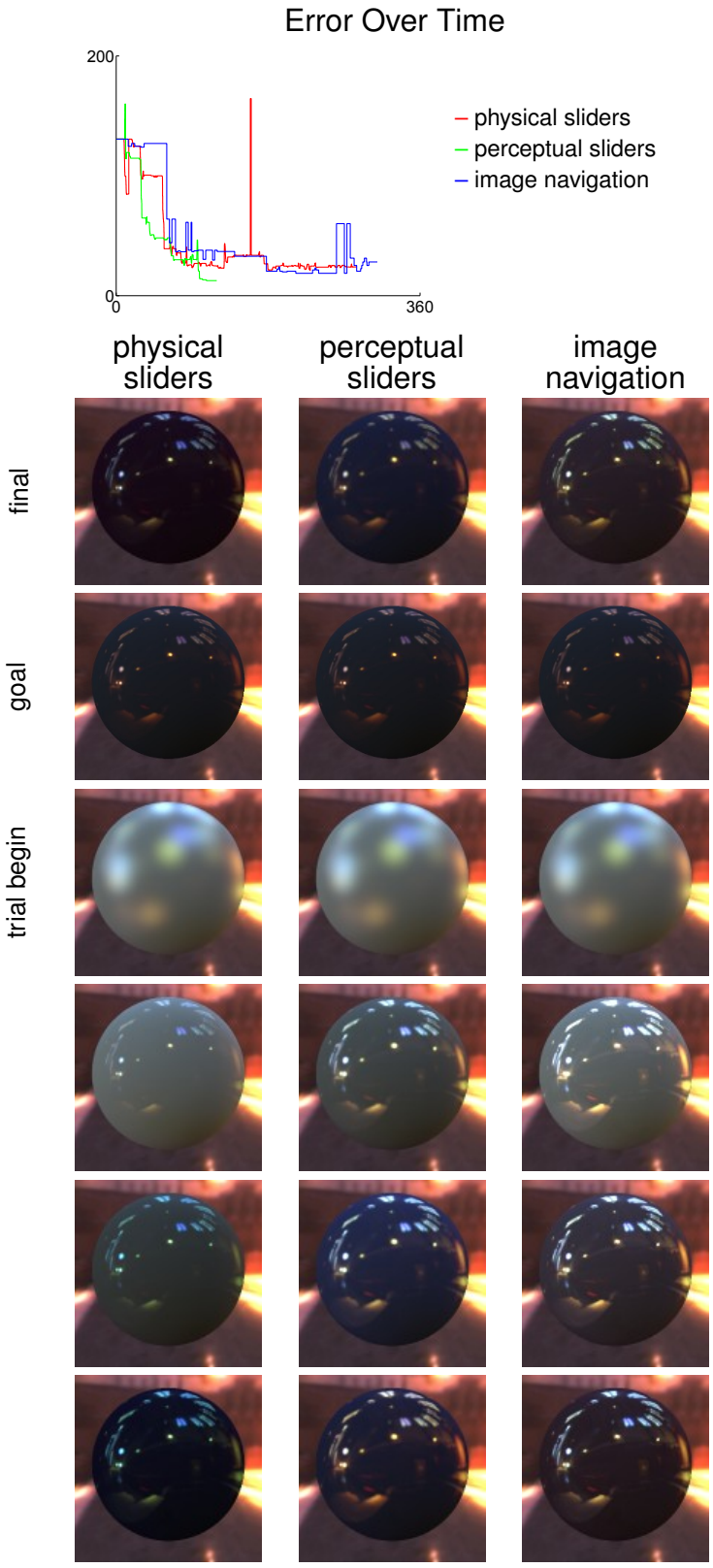

physical sliders
perceptual sliders
image navigation

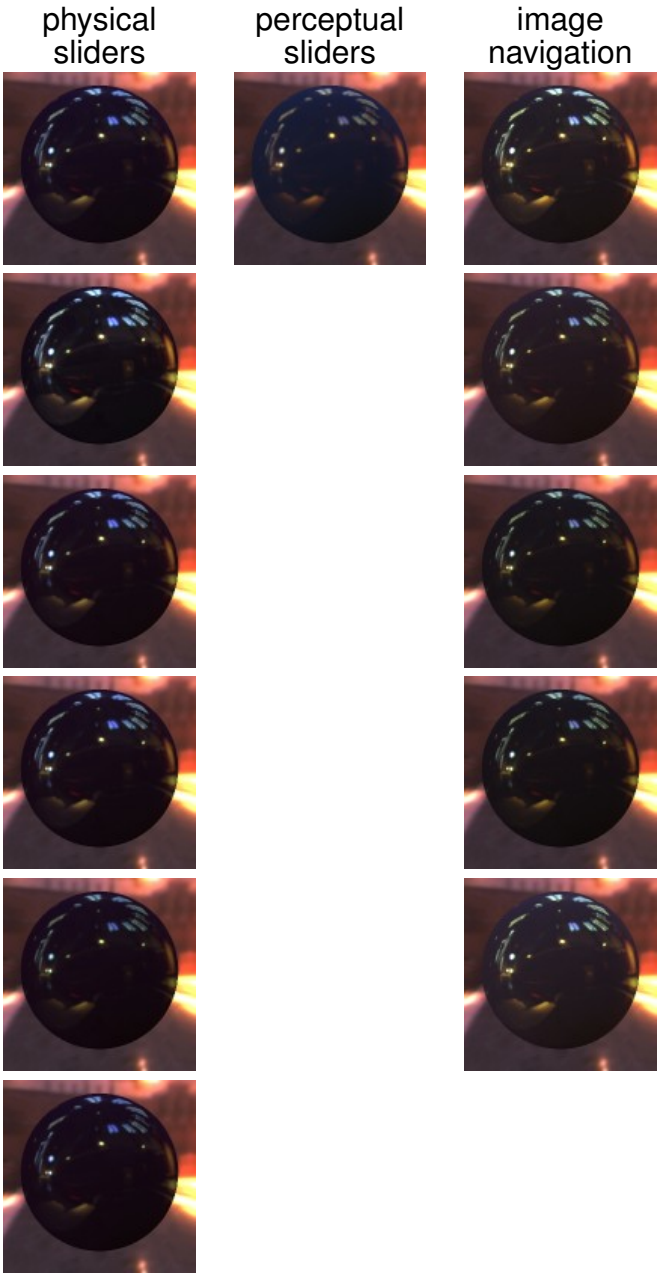
Trial 3


Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

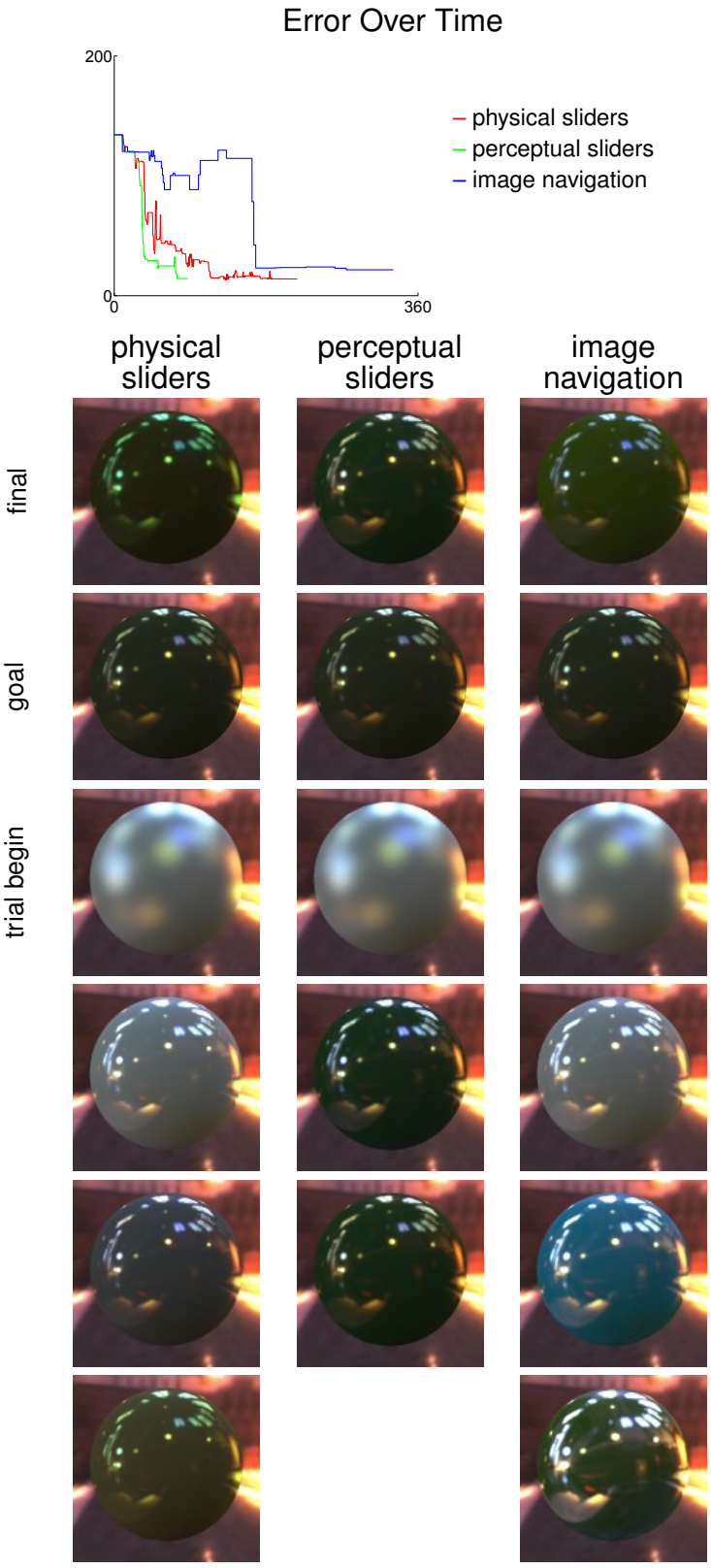

physical sliders
perceptual sliders
image navigation

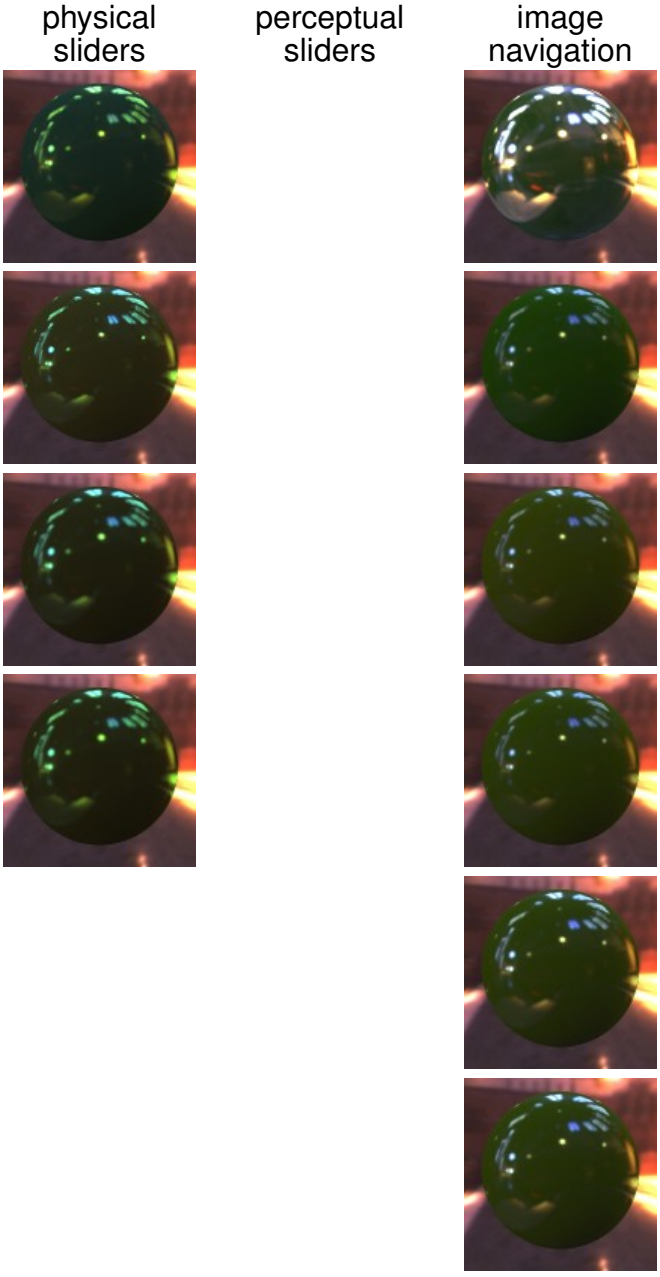
Trial 4


Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

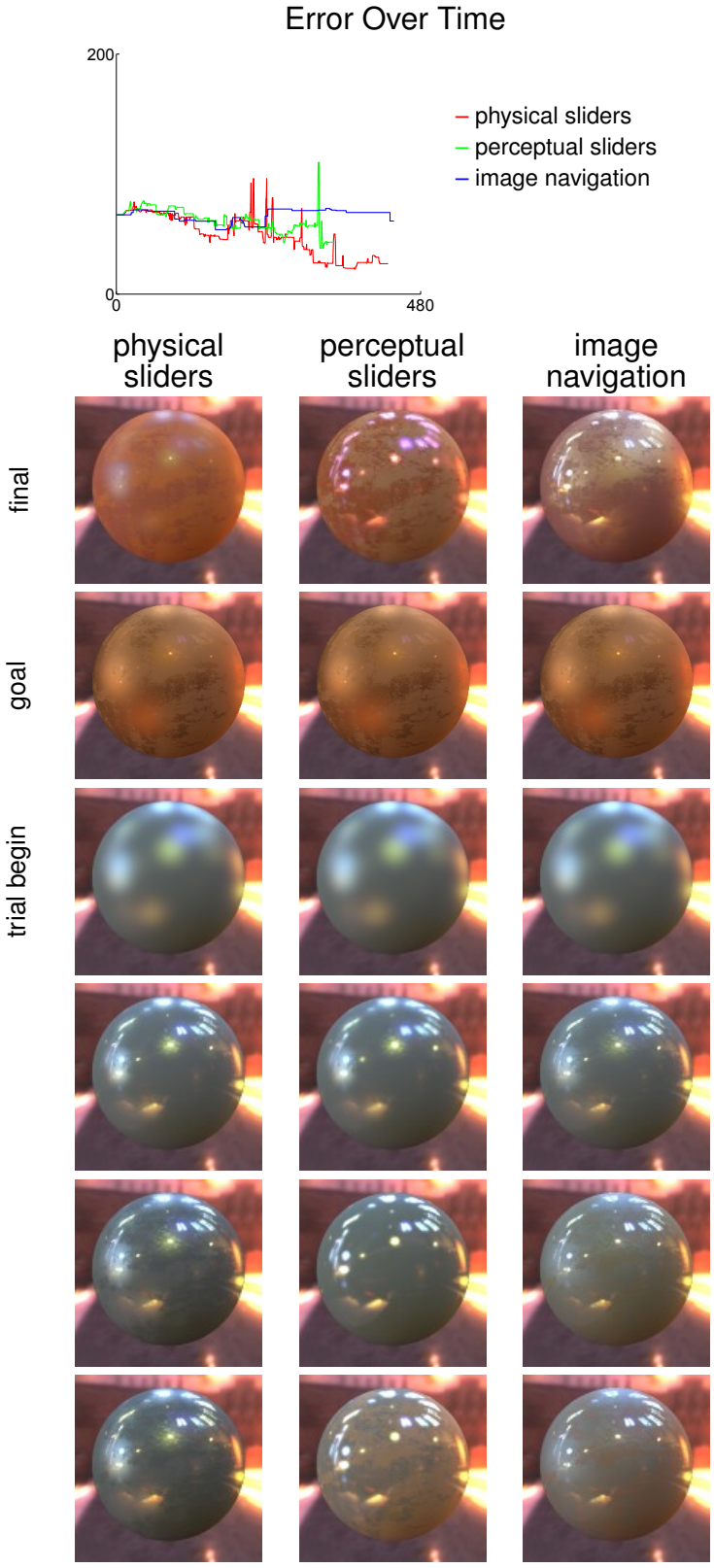

physical sliders
perceptual sliders
image navigation

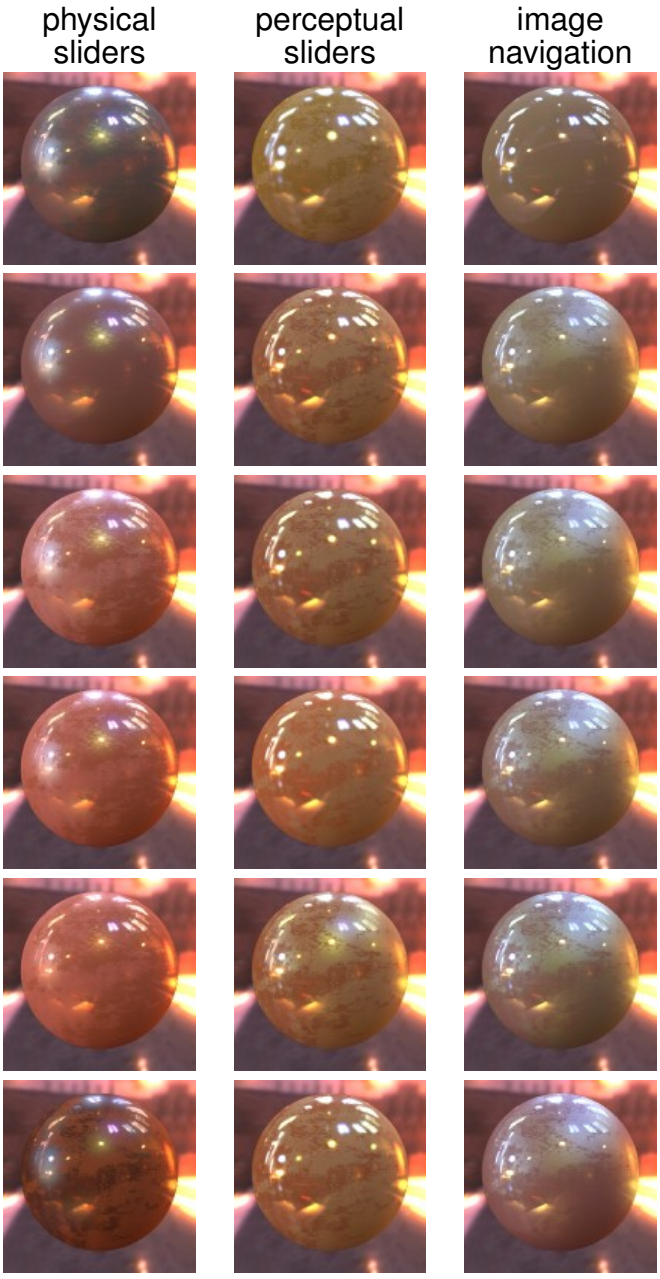
Trial 5

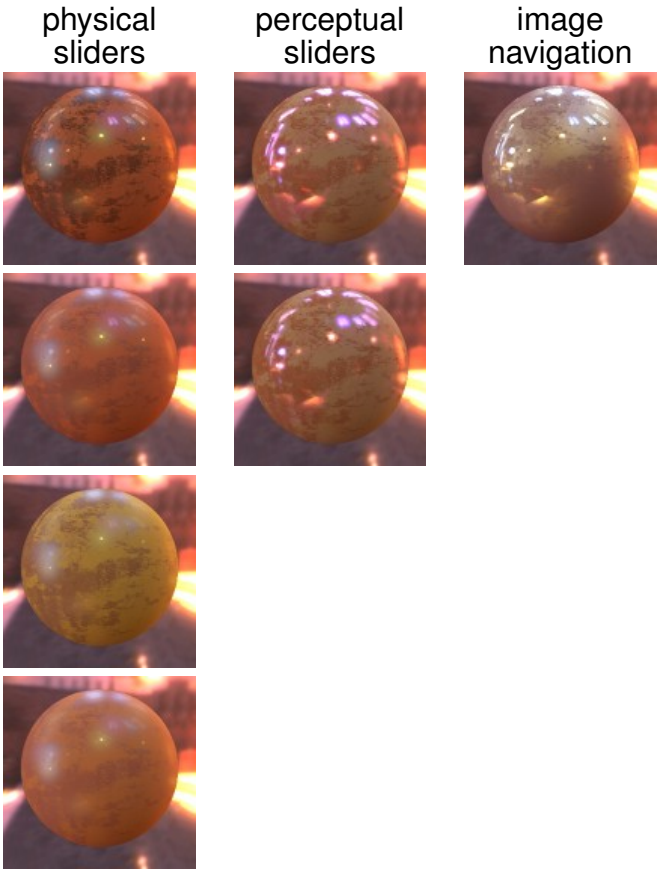

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

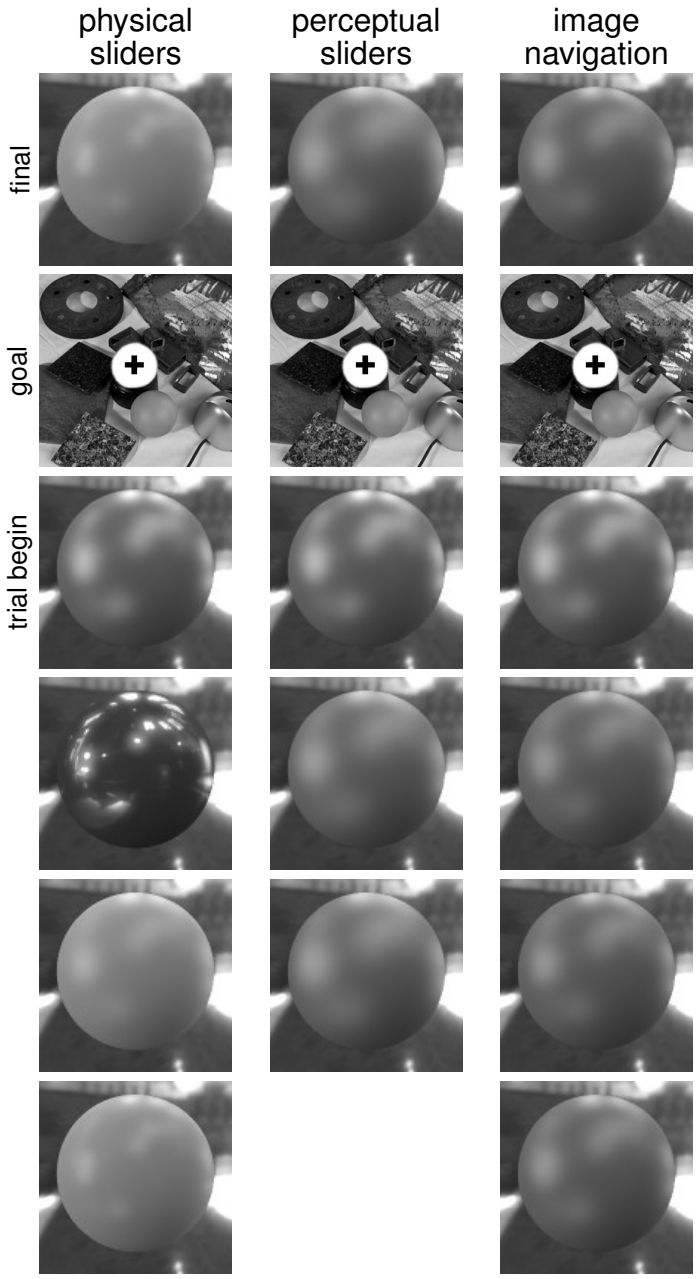
Trial 6


Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation


physical sliders
perceptual sliders
image navigation

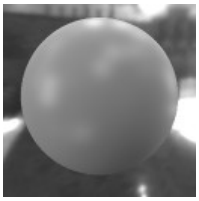
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

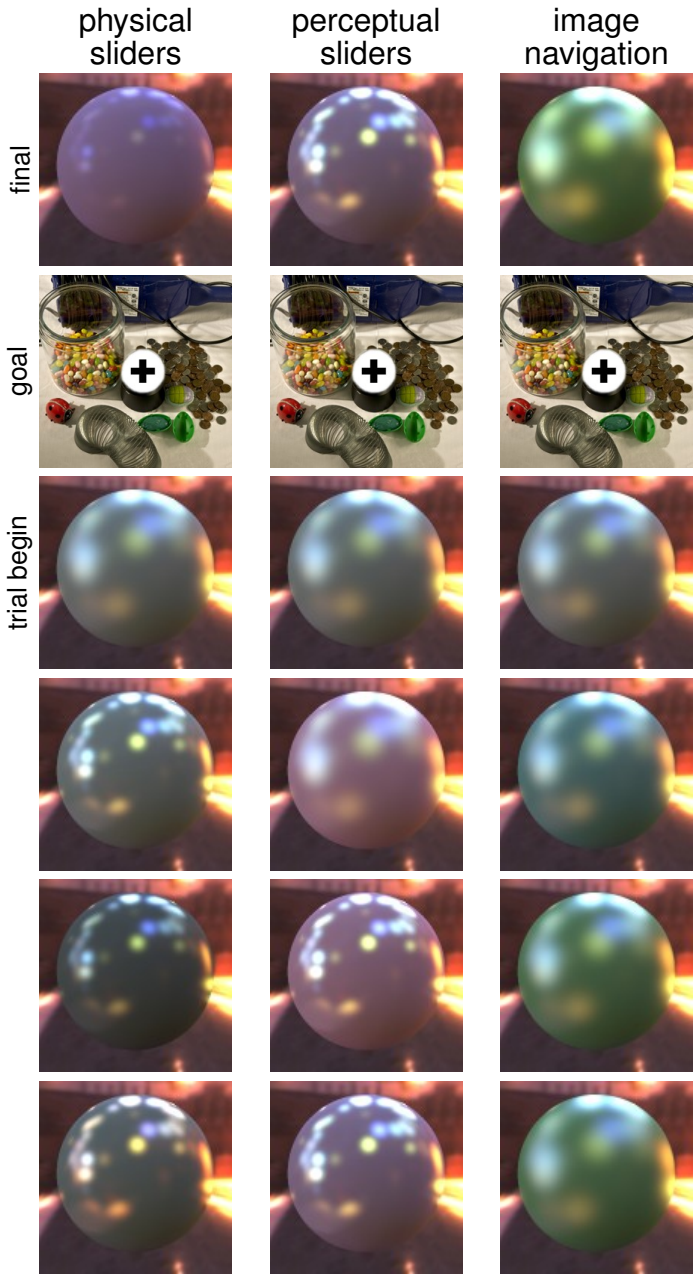
physical sliders

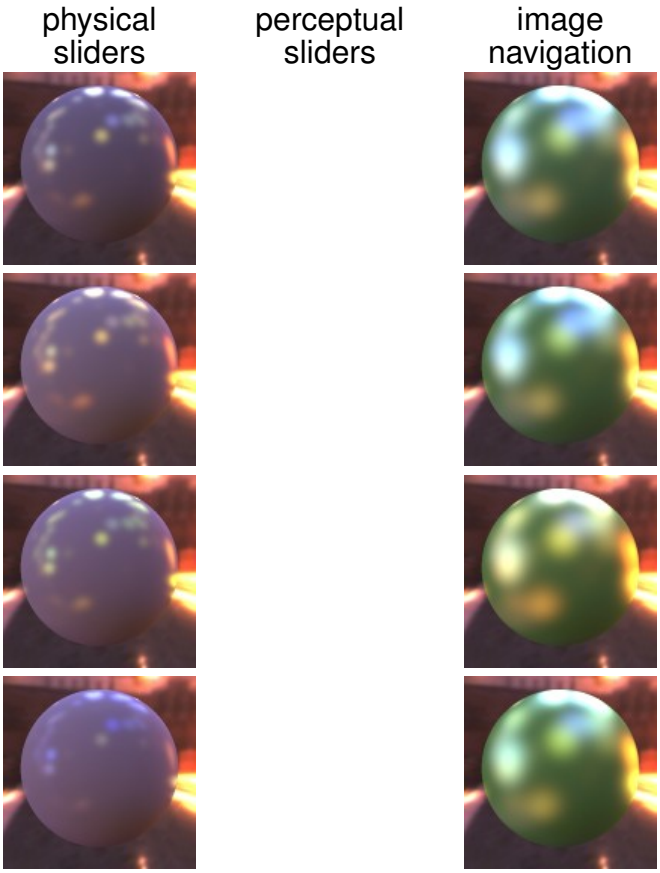
perceptual sliders

image navigation

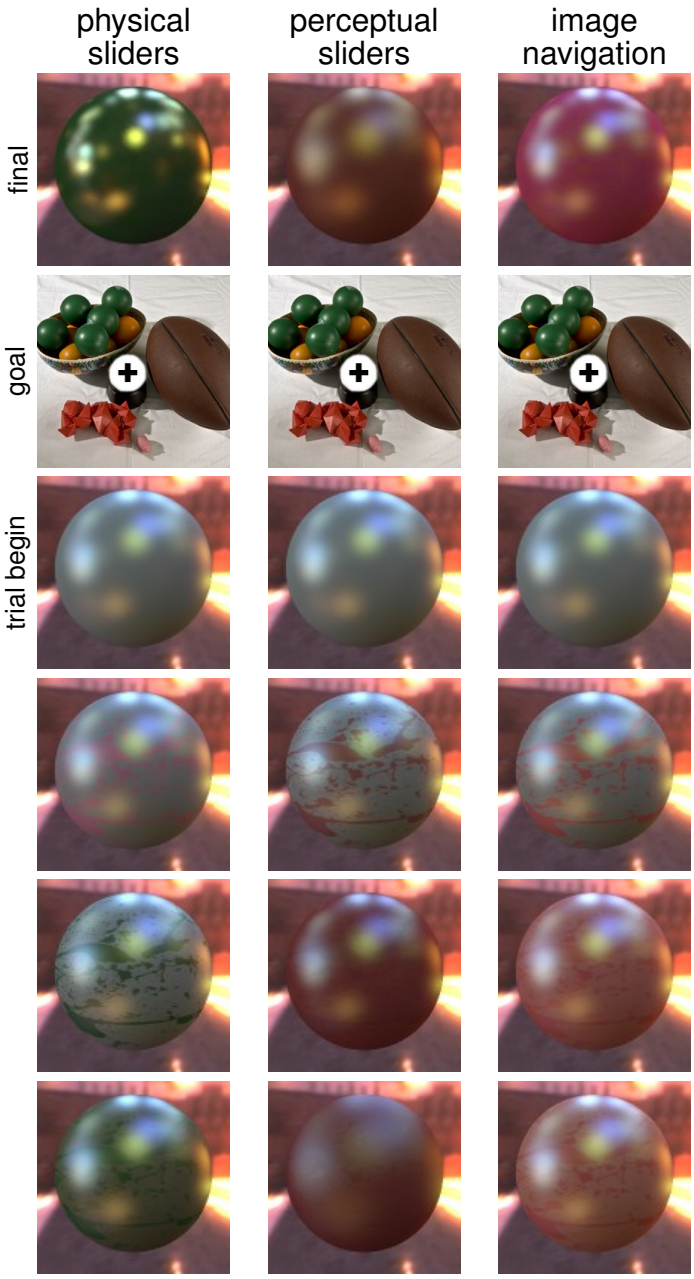


Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

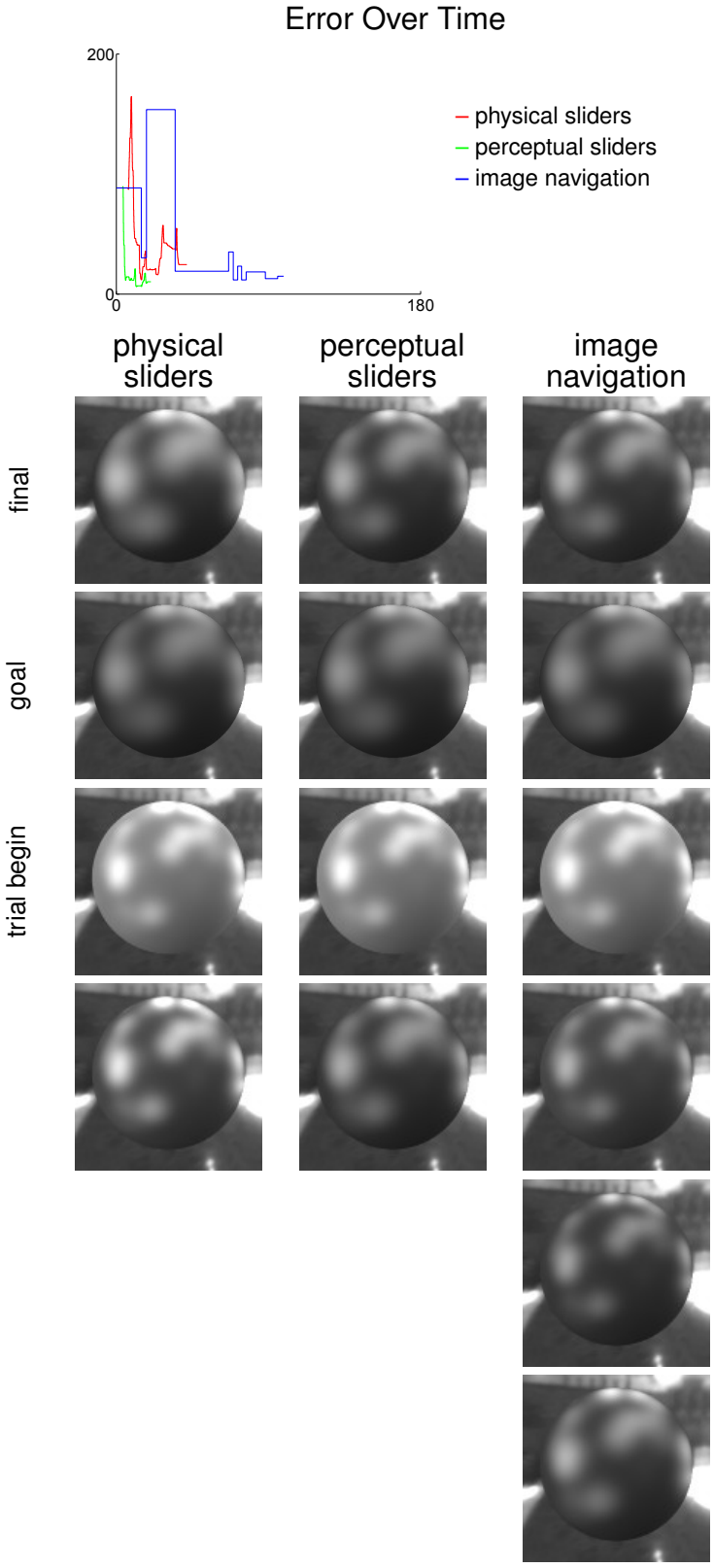
Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

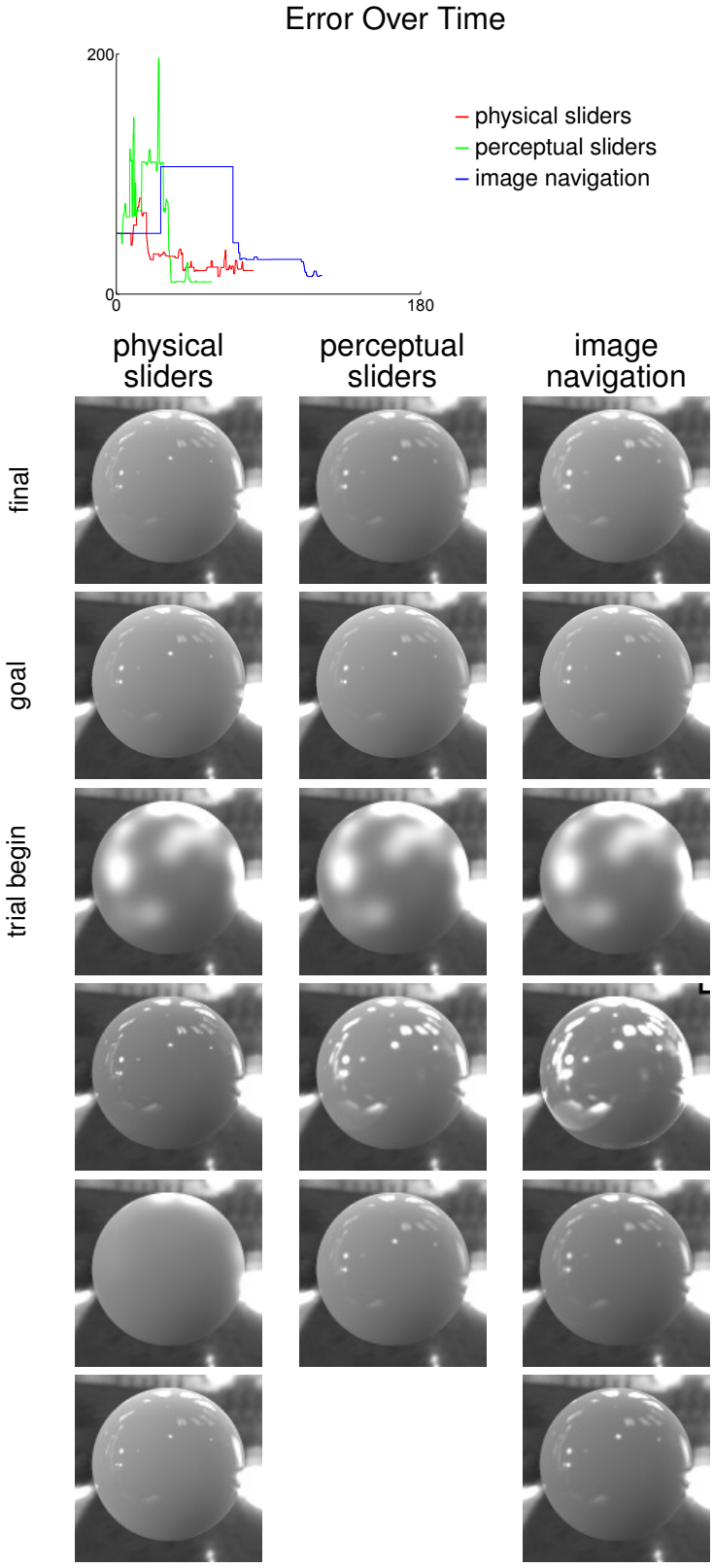
physical sliders
perceptual sliders
image navigation

Subject 20

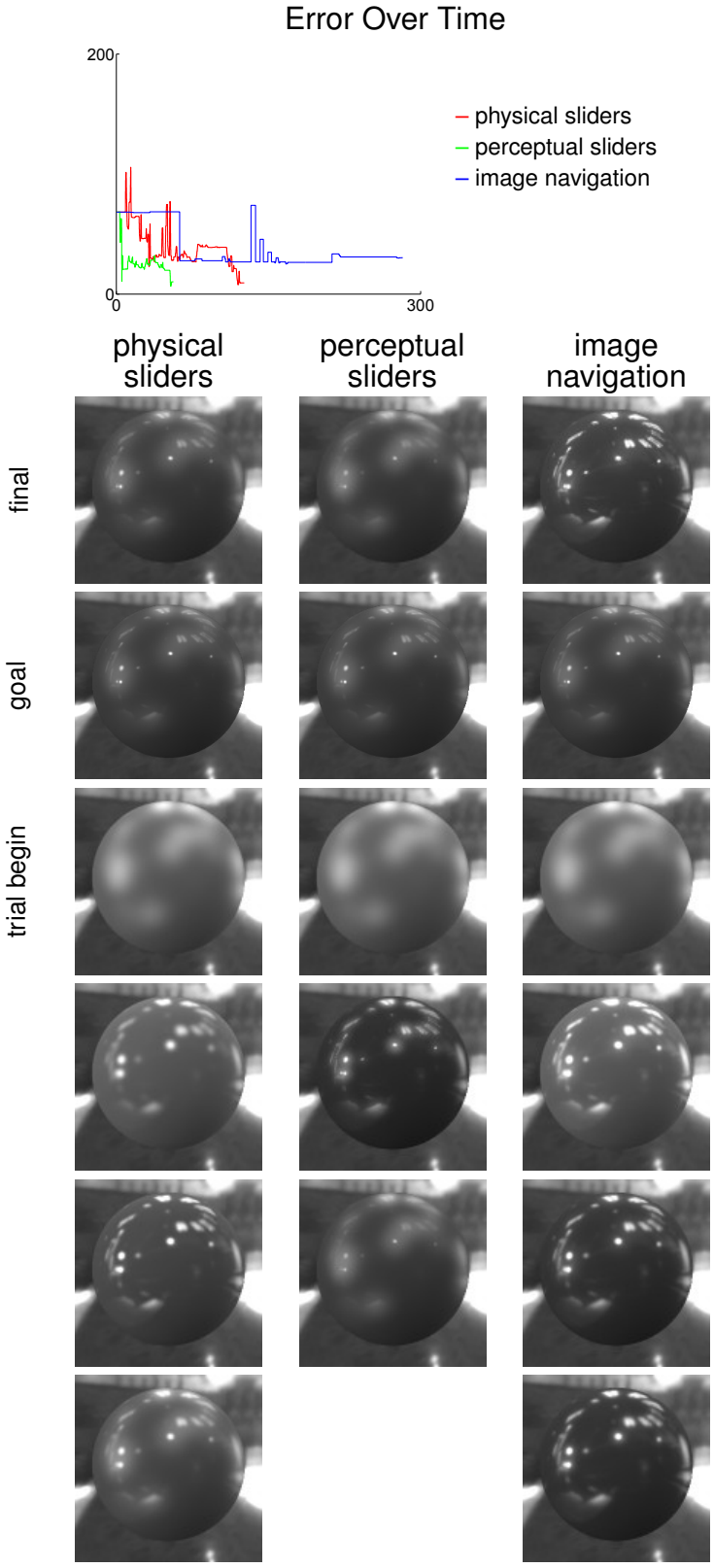
Trial 1


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 2


Error Over Time
200
0
0
180
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

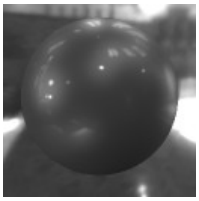
Trial 3

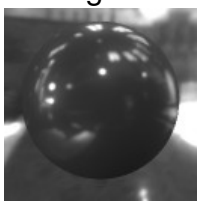

Error Over Time
200
0
0
300
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

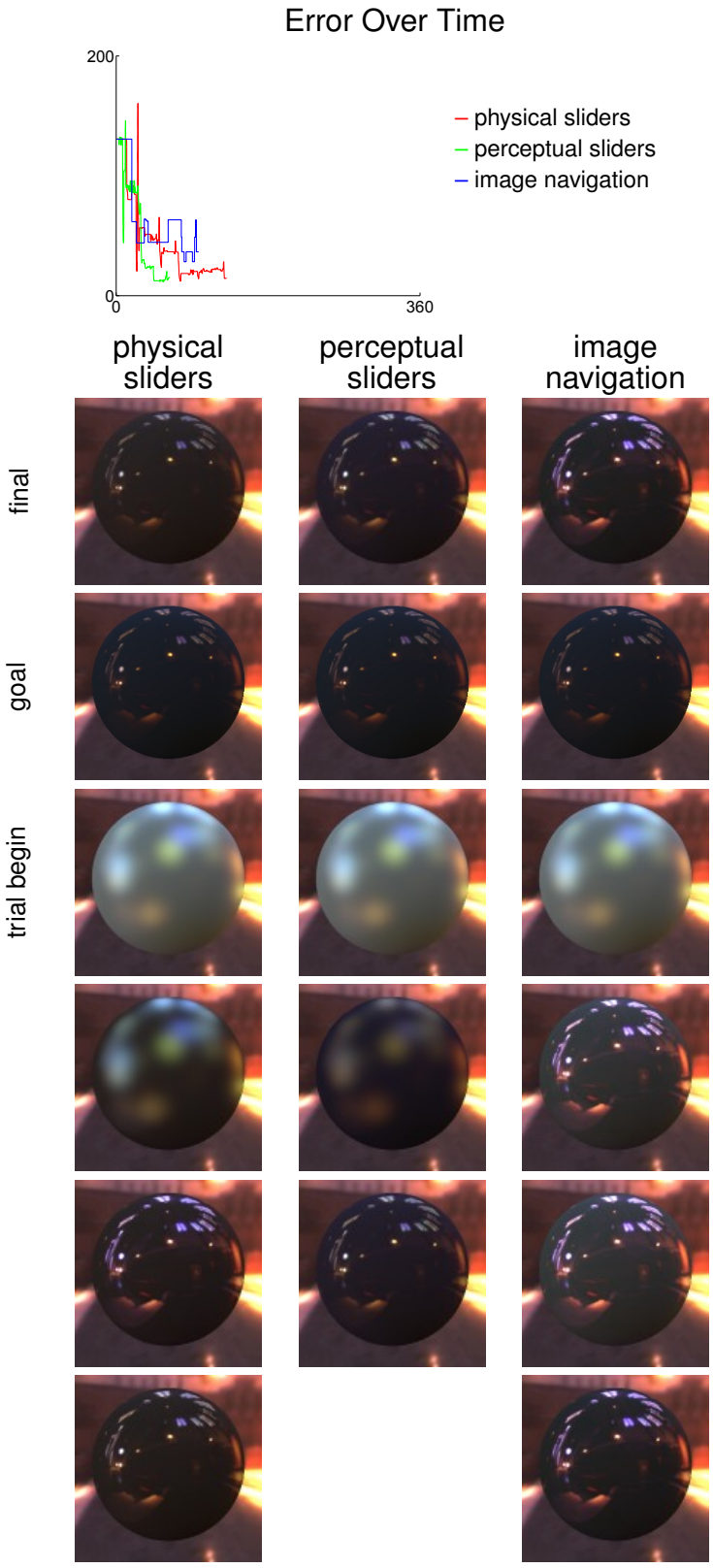
perceptual sliders

image navigation





Trial 4

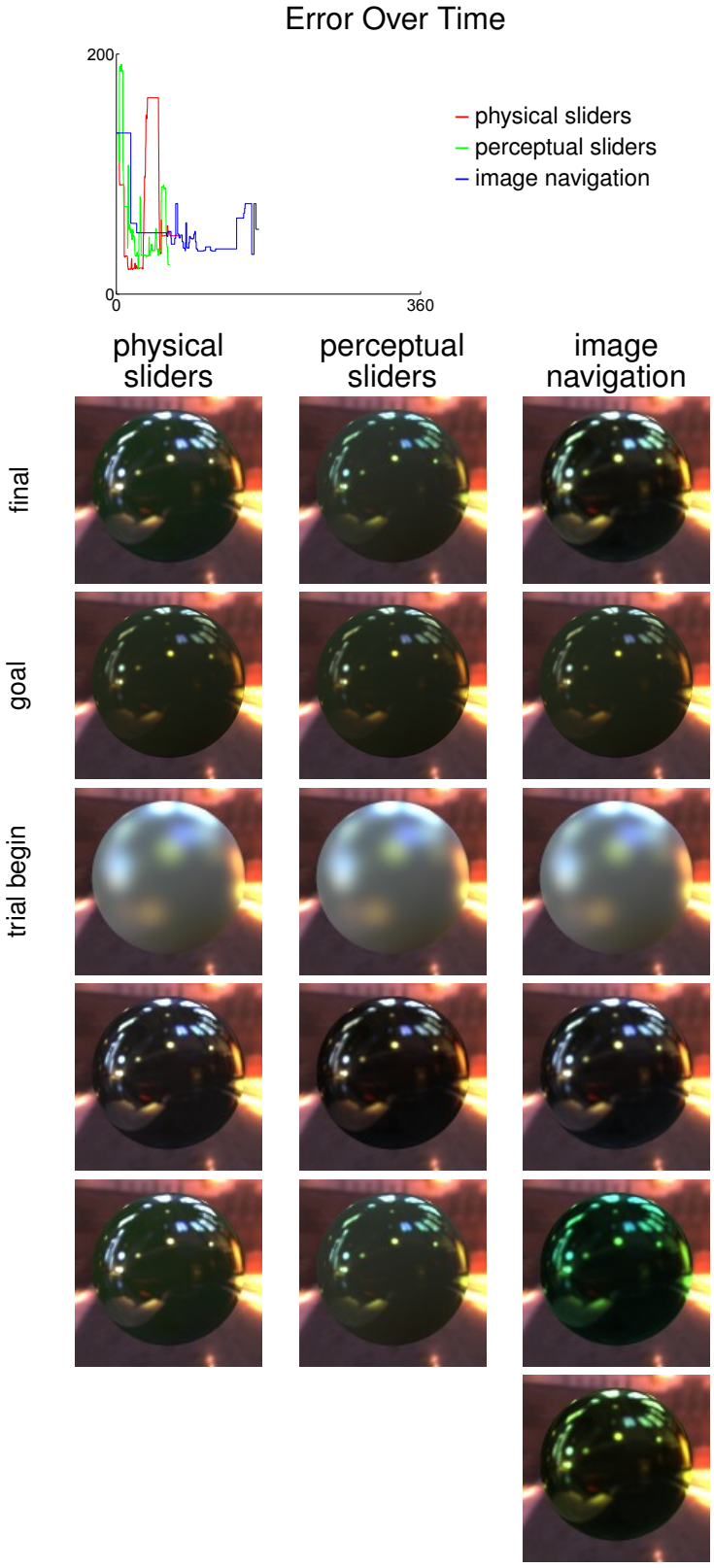

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders

image navigation

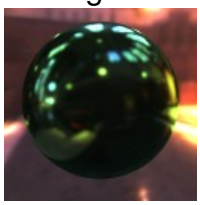
Trial 5

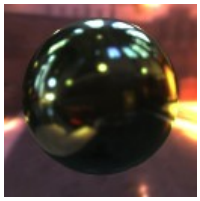

Error Over Time
200
0
0
360
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

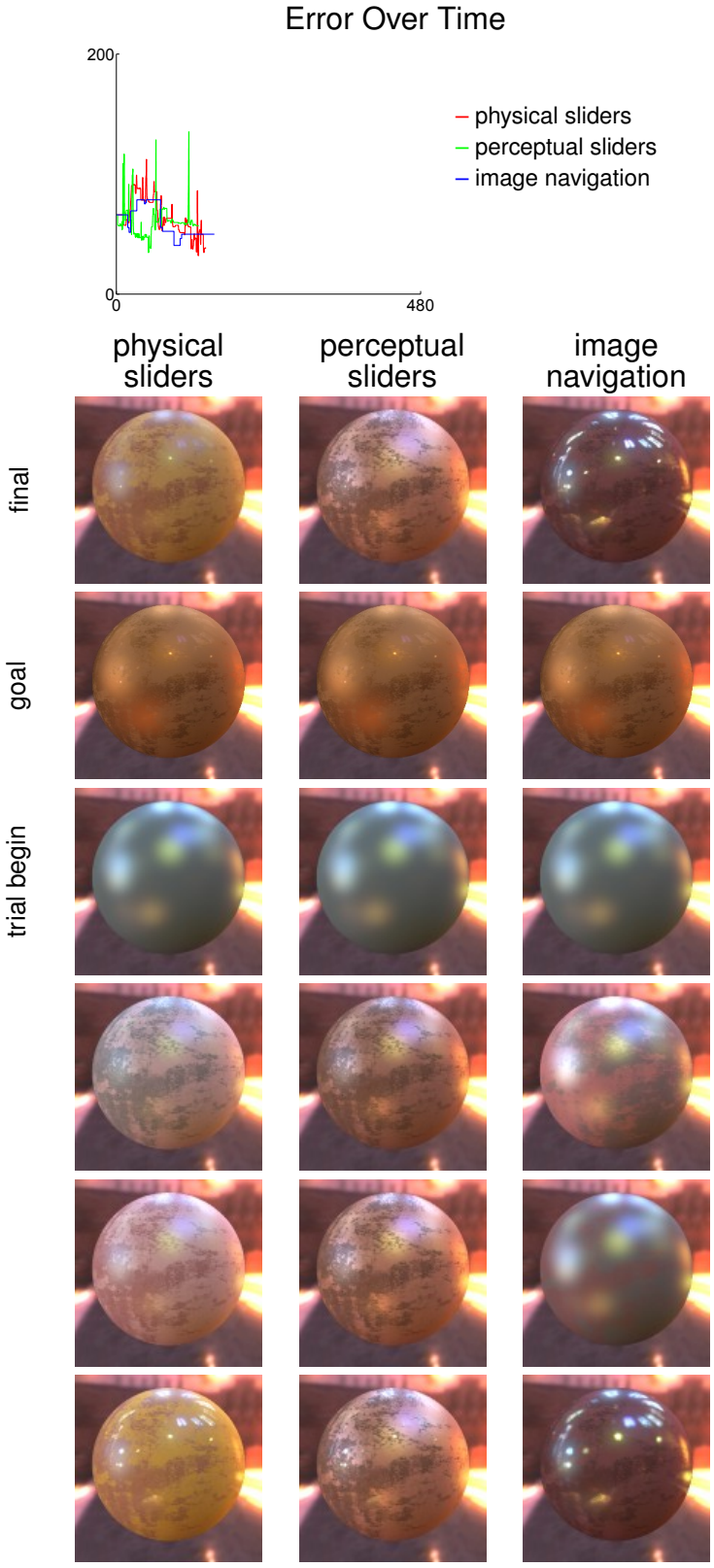
perceptual sliders

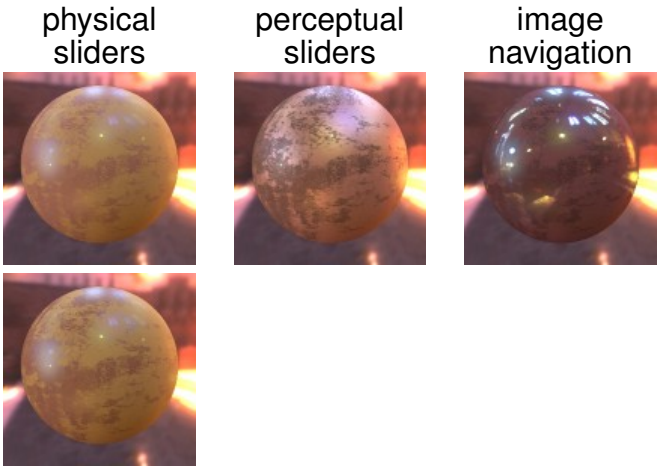
image navigation



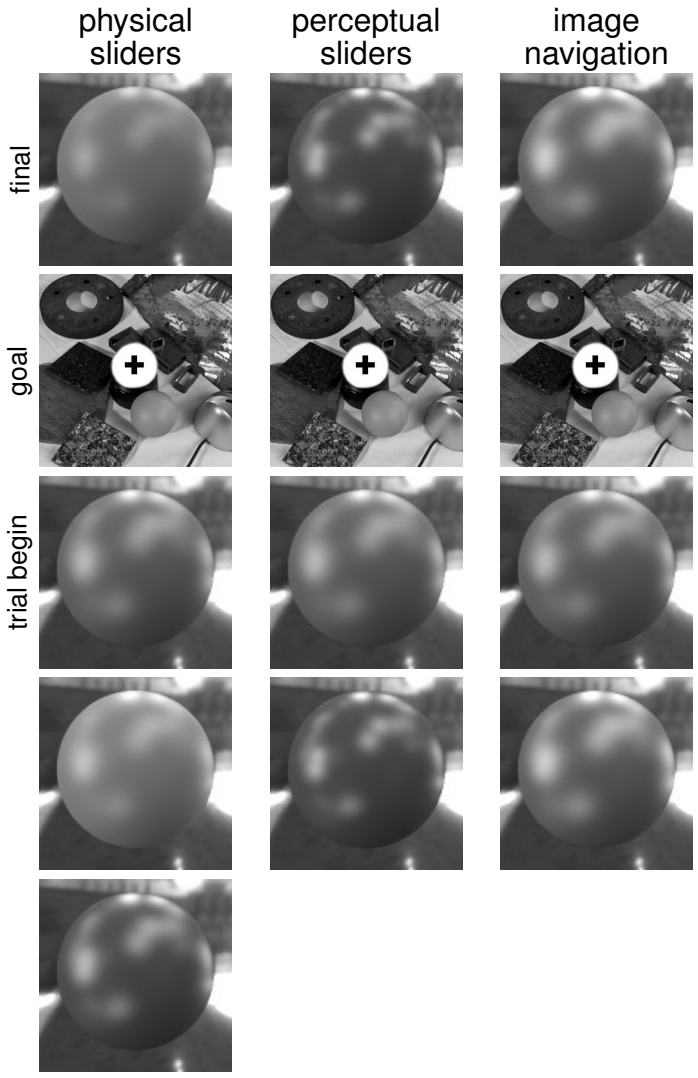


Trial 6

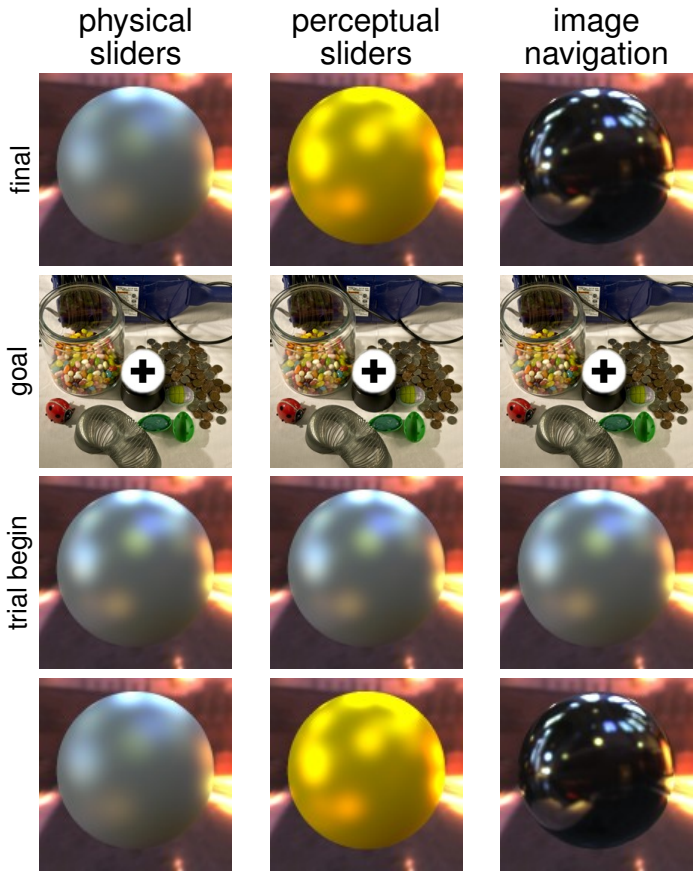

Error Over Time
200
0
0
480
physical sliders
perceptual sliders
image navigation
physical sliders
perceptual sliders
image navigation
final
goal
trial begin


physical sliders
perceptual sliders
image navigation

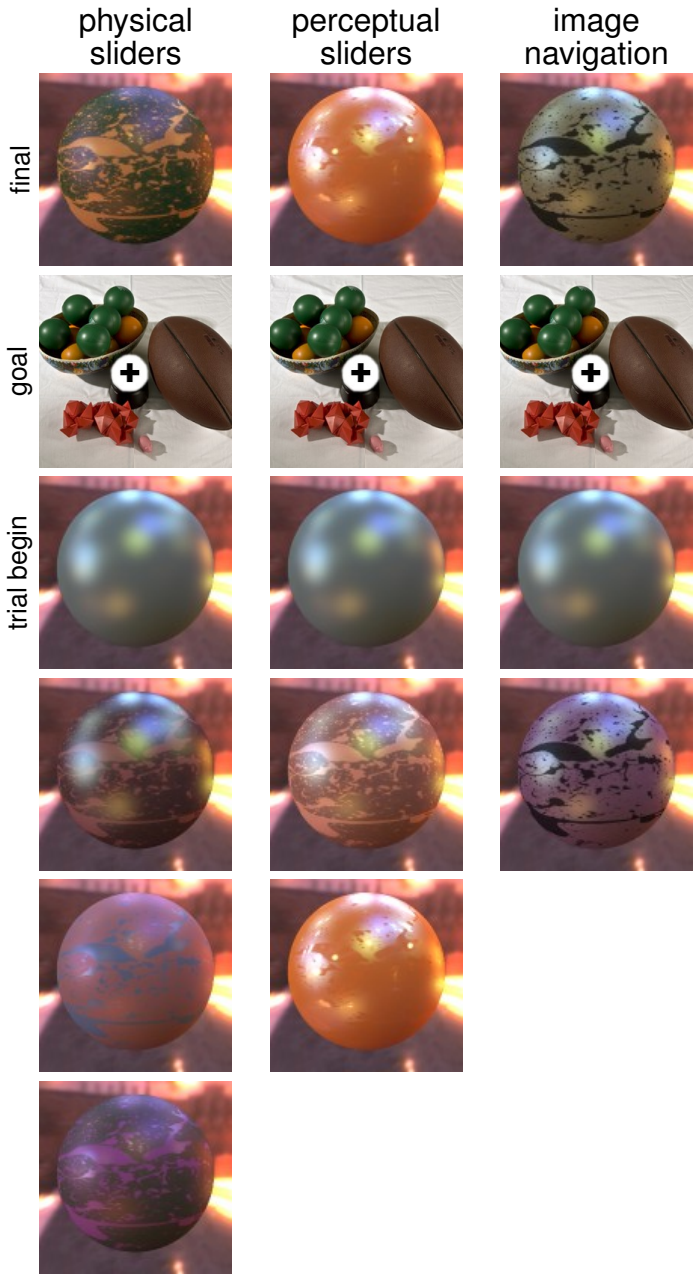
Trial 7


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 8


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

Trial 9


physical sliders
perceptual sliders
image navigation
final
goal
trial begin

physical sliders

perceptual sliders

image navigation