

Diffusion Coded Photography

Supplementary File

Online Submission ID: 0248

SIGGRAPH 2010

Scene 1

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 6ms
Focus at background (3m)

Normal Camera



f-number = 1.8; exposure time = 6ms
Focus at middle (1.8 m)

Normal Camera



**f-number = 1.8; exposure time = 6ms
Focus at foreground (0.8 m)**

Normal Camera



**f-number = 18; exposure time = 6ms
Focus at middle (1.8 m)**

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

**f-number = 1.8; exposure time = 6ms
Focus at middle (1.8 m)**

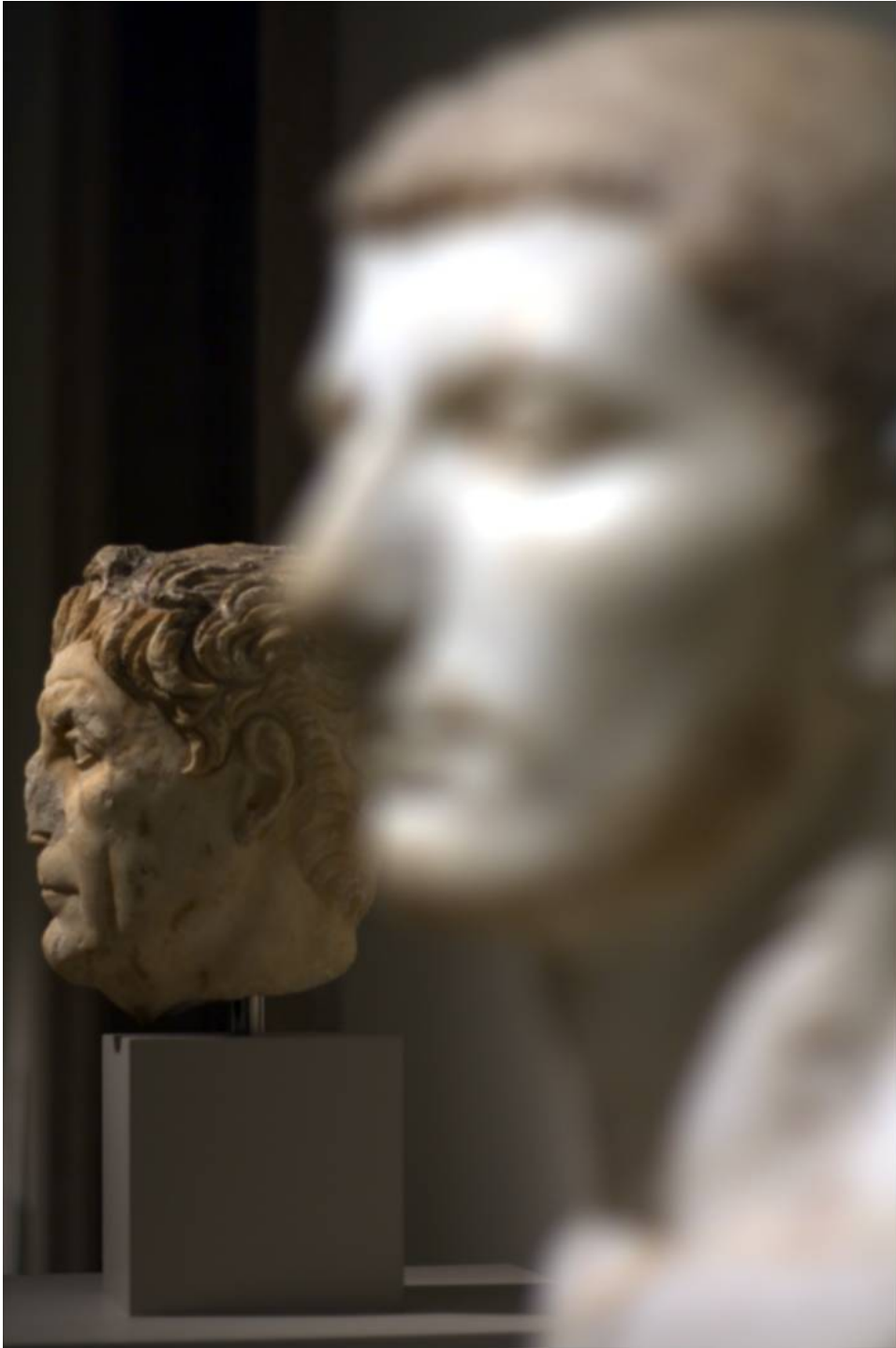
Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

Recovered EDOF Image

Scene 2

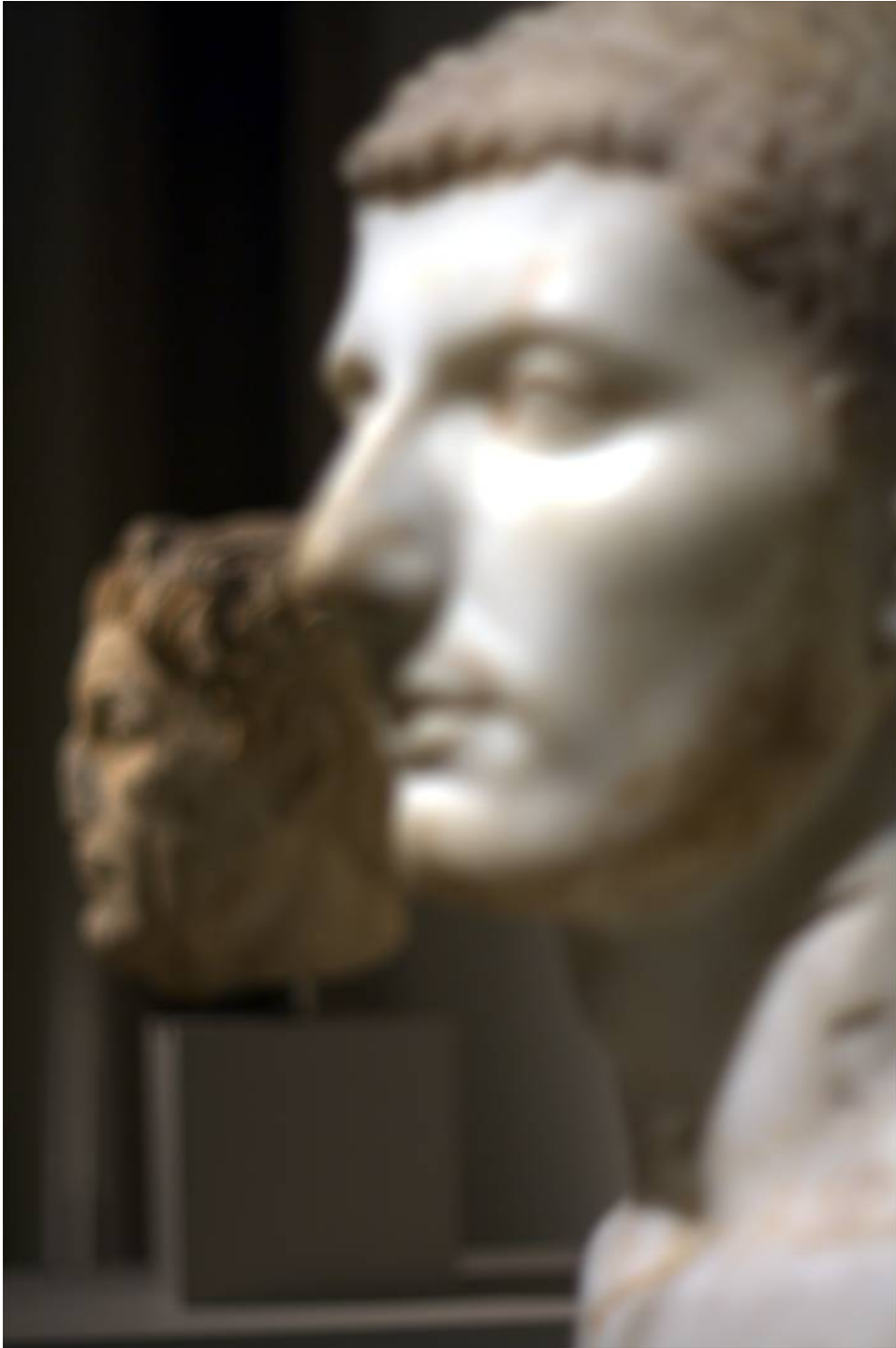


Normal Camera

Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8
exposure time = 10ms

focus at background (5m)



Normal Camera

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 10ms**

focus at middle (3m)

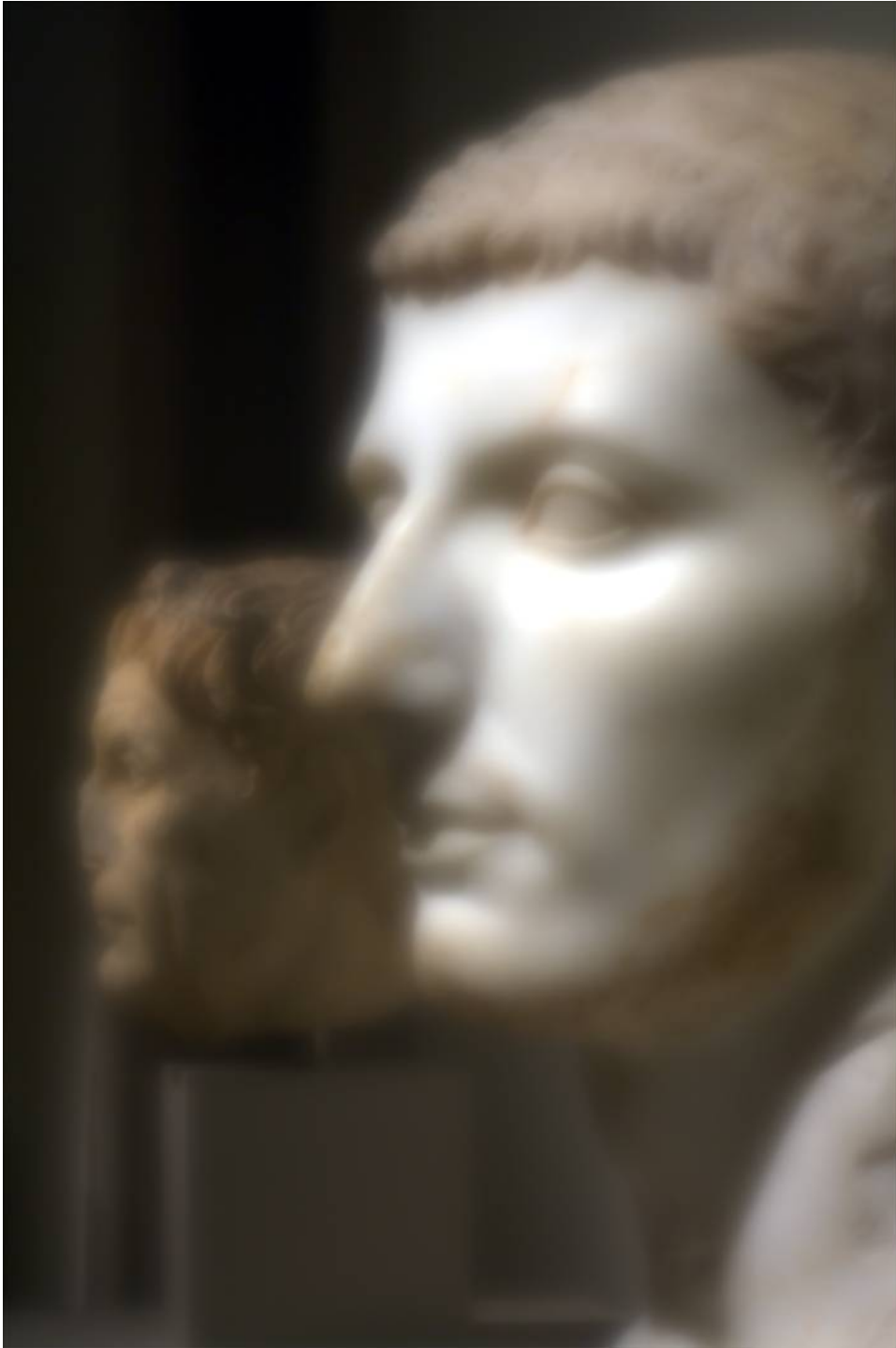


Normal Camera

Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8
exposure time = 10ms

focus at foreground (1.5m)



Diffusion Coding (Captured)

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 10ms**

focus at background (5m)



Diffusion Coding (Deblurred)

Scene 3

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 20ms
Focus at background (5m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 20ms
Focus at middle (3m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 20ms
Focus at foreground (5m)

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

**f-number = 1.8; exposure time = 20ms
Focus at middle (3 m)**

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

Recovered EDOF Image

Scene 4

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 12.5ms
Focus at background (3m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 12.5ms
Focus at middle (2m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 12.5ms
Focus at foreground (1.2m)

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

**f-number = 1.8; exposure time = 12.5ms
Focus at middle (2 m)**

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

Recovered EDOF Image

Scene 5

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 16ms
Focus at background (3m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 16ms
Focus at middle (2m)

Normal Camera



Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8

f-number = 1.8; exposure time = 16ms
Focus at foreground (1.2m)

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

**f-number = 1.8; exposure time = 16ms
Focus at middle (2 m)**

Diffusion Coding



**Diffusion Coded Photography
(same sensor and same lens)**

Recovered EDOF Image

Scene 6



Normal Camera

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 12.5ms**

focus at background (2.5m)



Normal Camera

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 12.5ms**

focus at middle (1.5m)

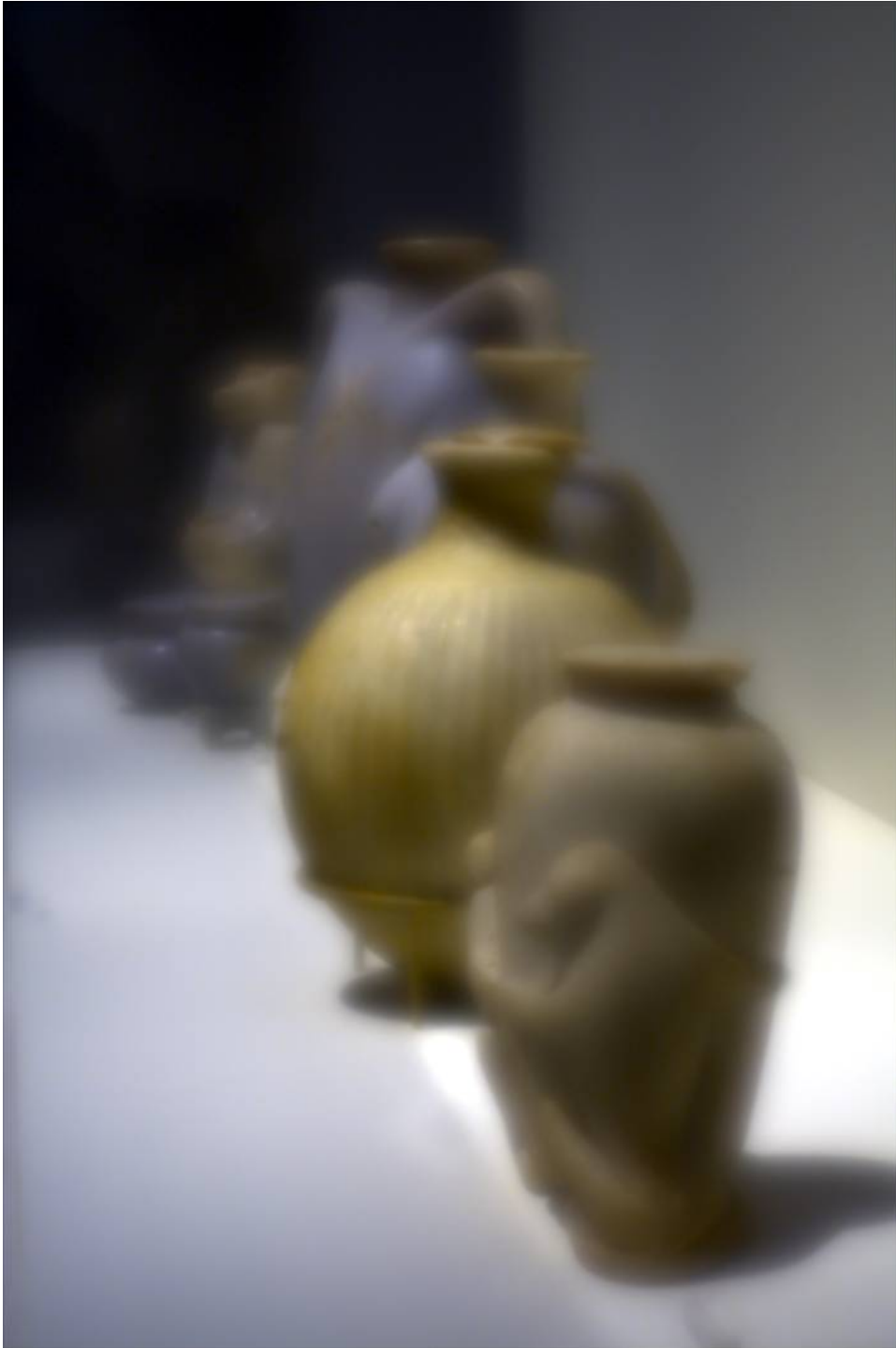


Normal Camera

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 12.5ms**

focus at foreground (1m)



Diffusion Coding (captured)

**Sensor: Canon EDOF 450D
Lens: Canon EF 50mm F/1.8**

**f-number = 1.8
exposure time = 12.5ms**



Diffusion Coding (Deblurred)