

# *Main Window:*

The main window contains the simulation view and several simulation controls.

Modes:

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This box allows the user to select the simulation mode.

Clicking in the View:

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This box contains options which determine what happens when the mouse is clicked in the simulation view. The pop-up menu allows the user to switch among the three modes: *Plot*, *Display* and *Place Test Point*.

When the plot option is selected, clicking the mouse anywhere in the view will plot: nothing, a single field line or an equipotential surface depending upon which radio button is highlighted.

When the display option is selected, clicking in the view displays nothing, or the numeric value of the field or the potential at that point depending upon which radio button is highlighted.

When the option to place a test point is selected, clicking in the view places the test point and begins the test point simulation.

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The user may drag the mouse before letting go of the button to set the point's initial velocity. If the user just clicks the mouse, the default initial velocity will be used. The Start and Stop buttons start and stop the simulation of the test point. Step will increment the simulation time by one time step unit to allow the user to study the test point in slow motion. The default initial velocity, mass, charge and increment of time for the test point may be changed by calling up the *Test Point* panel from the *Tools* menu.

## Simulation Controls:

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This box controls the stepping value used in the displaying of field and potential lines. Smaller stepping values provide smoother and more accurate curves, but require more time than large stepping values. The size of stepping value is relative to the size of the scale and of the objects in the simulation. Stepping values of standard sizes are available through the *Stepping Value* pull-down menu.

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This box sets the scale of the view. The grid size remains constant in the view, but the distance each grid represents changes with the scale. Thus, increasing the scale will make objects in the window appear smaller. Several standard scales are available through the *Scale* pull-down menu.

Other Controls:

The *Clear View* button clears the view of all potential and field lines as well as any numerical displays and test points. If a vector field is displayed, it will not be erased.

The *Goto Origin* button acts the same as *Clear View*, but in addition it centers the view on the origin of the coordinate system.

The *Initialize* button registers any change made in the simulation controls.



## Troubleshooting with Equipotentials:

If, because of either the stepping value or the complex configuration of the simulation, an equipotential line does not terminate when it wraps around, do not worry, just command-click the mouse to stop plotting. Adjust the stepping value to a smaller value and try again.