Manuals for granular physics

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This is a writeup containing instructions on how to use the high speed camera and the tracking program ImageJ.

1 Casio camera

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2 ImageJ

This program is used to track the particles either in a movie or picture. Certain plugins allow for obtaining the trajectories of the detected particle and calculation of radial distribution function.

This is the initial interface – picture

You may upload a video or picture following File - Open (Crtl+O) or by simple and drag and drop. The following will interface will pop up:

Uploading a video

You can select a fraction of the video by choosing the starting and ending frames. ImageJ seems to use about 200 kB of the memory per frame. You also have to take into account how many particles you will be tracking into the calculation when determining how many frames the memory can sustain. As an idea, it is possible to analyze 21 particles in 50,000 frames. Of the boxes above, only check the middle one: Convert to greyscale. Result:

Picture of an uploaded video

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