DEM: Rockslides 1

The model consists of 120,000 elements in a regular hexagonal packing in a hopper. The hopper is tilted incrementally. Elements within the material have breaking strains defined at the start of the experiment that range from 0.075-0.0075. The strength of the conection between each pair of elements is determined at the start of the experiment from the average breaking strain that connect them. This introduces heterogeneity into the media. A percentage of elements are defined to be stronger 'rocks' within the matrix. These rocks are created from finding an element with the highest breaking strain and giving all elements within a randomly selected radius (<8.5 units) the same breaking strain.
Elements in the output are coloured according to the number of broken bonds to neighbours from white to dark blue/green. The strong 'rocks' are therefore represented by the white spheres. The cohesiveness of the matrix is controlled by it's viscosity (v), where as v increases the matrix strengthens.