

DISLOCATION DYNAMICS IN CRYSTALS

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ABSTRACT. I will investigate the evolution of the dislocations in crystals, under the effect of external stress. I will show that the dislocations have the tendency to concentrate in single points, where the size of the slip coincides with the natural periodicity of the medium, by producing a defect in the crystalline structure. This talk is based on a series of papers by Serena Dipierro, Alessio Figalli, Maria del Mar Gonzalez, Regis Monneau, Enrico Valdinoci, and me.