

Abstract Submitted
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Potts-Percolation Model of Solids MIRON KAUFMAN, Cleveland State University, H.T. DIEP, CNRS- Universite Cergy-Pontoise, France — We study a statistical mechanics model of a solid. Neighboring atoms are connected by Hookian “springs”. If the energy of a “spring” is larger than a threshold, the “spring” is more likely to fail, while if the energy is lower than the threshold the spring is more likely to be alive. The phase diagram and thermodynamic quantities, free energy, numbers of bonds and clusters etc, are determined using renormalization-group and Monte-Carlo techniques.

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