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Insulating State of Granular Superconductors in a Strong Coupling Regime IGOR BELOBORODOV, Argonne National Laboratory, YASHA FOMINOV, Landau Institute for Theoretical Physics, ANDREI LOPATIN, VALERII VINOKUR, Argonne National Laboratory — We analyze the possibility of the formation of a magnetic field induced insulating state in a two-dimensional granular superconductor with relatively strong intergranular coupling and show that such a state appears in a model with spatial variations of the single grain critical magnetic field. This model well describes realistic granular samples with the dispersion in grain sizes and explains qualitatively the recent experimental observation of a giant peak in the magnetoresistance of dirty superconducting films.

Igor Beloborodov
Argonne National Laboratory

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