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Phase diagram of a disordered system near superconductor-insulator transition[1] VALERY POKROVSKY, Texas A&M University, GIANMARIA FALCO, THOMAS NATTERMANN, Inst. of Theoretical Physics, Cologne University — Experiments show that, in systems displaying the superconductor-insulator transition, Cooper pairs are conserved in the insulator state. We study the localized states of the Cooper pairs in the random potential and their transformations under the action of a strong magnetic field. Depending on dimensionality of the system and direction of magnetic field, the Bose-insulator of localized Cooper pairs, can either transit to Fermi-insulator and then to metal, or directly transit to metal. The resistance first strongly grows and then, at the field increasing, strongly decreases. This behavior of resistance was found in experiments

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