

Abstract Submitted
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Effects of columnar defects on fluctuation phenomena in superconductors ALEXEY GALDA, ALEXEI KOSHELEV, Argonne National Laboratory, ANDREY VARLAMOV, CNR-SPIN — We investigate thermodynamic properties of superconducting materials with columnar defects in presence of external magnetic field. The defects, which can be produced by ion irradiation, have a dramatic effect on vortex pinning and critical parameters of the superconductor. We account for superconducting fluctuations in the system and calculate their effect on thermodynamic properties (e.g. specific heat, etc.) The results are valid for high- T_c superconductors. We compare our results with the recent experiments.

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