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On the Bardeen-Cooper-Schrieffer integral equation in the theory of superconductivity.
(English) Zbl 0729.45009

The paper deals with the study of the Bardeen-Cooper-Schrieffer integral equation which appears in the theory of superconductivity. Assuming the positiveness of the kernel of that equation it is shown that there exists a unique finite transition temperature T_c such that if $T < T_c$ then the equation in question possesses a positive solution. Moreover, it is proved that such a solution may be approximated by a sequence of solutions of the Bardeen-Cooper-Schrieffer equation restricted to bounded domains.

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MSC:

45G10	Other nonlinear integral equations
45M20	Positive solutions of integral equations
82D55	Statistical mechanical studies of superconductors

Cited in **11** Documents

Keywords:

Bardeen-Cooper-Schrieffer integral equation; superconductivity; positive solution

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