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On a generalization of the method by Barbaroux et al. for the improvement on the rate of decay of an operator resolvent. (English)

[Conference Article] Govaerts, Jan (ed.) et al., Contemporary problems in mathematical physics. Proceedings of the second international workshop, Cotonou, Republic of Benin, October 28-November 2, 2001. River Edge, NJ: World Scientific. 440-445 (2002). [ISBN 981-02-4935-7/hbk]

Thanks to J-M. Combes and his co-workers it is now clear that many properties of a charged Schroedinger particle moving in an external classical electromagnetic field (typically: wavefunction asymptotics and the related localization and the density of states near band edges) find their most natural description in the language of resolvents based, formally, on a facilitated feasibility of the determination or estimates of the rate of their decay. One of the results of this type is generalized in this short note by weakening slightly the assumptions in the corresponding theorems. The transition from the case with one gap to finite number of gaps in the spectrum is shown trivial, and the resulting improvement of the applicability of the theory is illustrated on the random Schroedinger operators of Landau type.

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Primary Classification:

82B44 - Disordered systems random Ising models, random Schroedinger operators, etc.

Secondary Classification:

47A10 - Spectrum, resolvent

81Q10 - Selfadjoint operator theory in quantum theory, including spectral analysis

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