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Conditions suffisantes pour la compacité de la résolvante d'un opérateur de Schrödinger avec un champ magnétique. (French) [Sufficient conditions for the compactness of the resolvent of a Schrödinger operator with a magnetic field]

J. Math. Kyoto Univ. **31** (1991), *no. 3*, 875–880.

The Schrödinger operator on $L^2(\mathbf{R}^n)$ under consideration is $H(\mathbf{a}) + V$; the magnetic potential $\mathbf{a} = (a_1, \dots, a_n)$ is real and $a_j \in C^\infty(\mathbf{R}^n)$; $H(\mathbf{a}) = \sum_{j=1}^n (D_j - a_j)^2$, where $D_j = -i\partial_{x_j}$; the electric potential V is real, is semibounded from below and can be expressed as $V = \sum_{j=1}^p V_j^2$, where $V_j \in C^\infty(\mathbf{R}^n)$. Sufficient conditions for the compactness of the resolvent of the operator $H(\mathbf{a}) + V$ are given. The arguments and the results extend those of B. Helffer and A. Mohamed [Ann. Inst. Fourier (Grenoble) **38** (1988), no. 2, 95–112; [MR0949012 \(90d:35215\)](#)].

Reviewed by *Jean Leray*

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