COUNTING THE BOUND STATES OF A SCHRÖDINGER OPERATOR: ROZENBLUM – LIEB – CWIKEL ESTIMATE AND BEYOND

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The renowned Rozenblum – Lieb – Cwikel theorem gives a sharp estimate of the number of negative eigenvalues (bound states) of the Schrödinger operator on the Euclidean space of dimension greater than two. It has many useful analogues for the operators acting on manifolds, domains of the Euclidean space, and also for the operators on a lattice, etc. It is also important to know what happens if the conditions of this theorem are not satisfied.

In the talk, based upon my joint paper with G. Rozenblum, I am going to give a survey describing the present situation in this field.