1057-35-122 **Oleg L Safronov*** (osafrono@uncc.edu), 9201 University City Blvd, charlotte, NC 28223.
Absolutely continuous spectrum of multi-dimensional Schrödinger operators.

We are going to discuss the relation between the negative and positive spectra of Schrödinger operators. The unusual side of the situation we are going to talk about is that instead of one operator we need two of them:

$$H_+ = -\Delta + V, \qquad H_- = -\Delta - V.$$

It turns out that we can obtain a certain information about the positive part of the spectrum from the information about the accumulation of negative eigenvalues of H_+ and H_- to zero.

Among our applications are results about random Schrödinger operators. In particular, applying the suggested method, one can prove the following result.

Let $d \geq 5$ and let ω_n be bounded independent identically distributed random variables with the zero expectation, $n \in \mathbb{Z}^d$. Define

$$V_\omega = \sum_{n \in \mathbb{Z}^d} \omega_n \chi(x-n),$$

where *chi* is the characteristic function of the unit cube $[0,1)^d$. Consider the operator

$$H_\omega = -\Delta + (-\Delta_\theta)|x|^{-s} + V_\omega,$$

where Δ_θ is the Laplace-Beltrami operator on the unit sphere. The statement is that, if $s > 0$ is sufficiently small, then the absolutely continuous spectrum of H_ω covers the positive half-line almost surely. (Received January 16, 2010)