
ROBERT SEIRINGER, McGill University

A positive density analogue of the Lieb-Thirring inequality

The Lieb-Thirring inequalities give a bound on the negative eigenvalues of a Schroedinger operator in terms of an L^p norm of the potential. This is dual to a bound on the H^1 -norms of a system of orthonormal functions. Here we extend these to analogous inequalities for perturbations of the Fermi sea of non-interacting particles, i.e., for perturbations of the continuous spectrum of the Laplacian by local potentials. (This is joint work with R. Frank, M. Lewin and E. Lieb.)