LOCAL EXCLUSION AND LIEB-THIRRING INEQUALITIES FOR INTERMEDIATE AND FRACTIONAL STATISTICS

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A local exclusion principle is observed for identical particles obeying intermediate/fractional exchange statistics in one and two dimensions, leading to bounds for the kinetic energy in terms of the density. This has implications for models of Lieb-Liniger and Calogero-Sutherland type, and implies a non-trivial lower bound for the energy of the anyon gas whenever the statistics parameter is an odd numerator fraction. This is recent joint work with Jan Philip Solovej.