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**Jean Dolbeault, Ari Laptev and Michael Loss\*** ([loss@math.gatech.edu](mailto:loss@math.gatech.edu)), School of Mathematics, Georgia Tech, 686 Cherry Street, Atlanta, GA 303320160. *Lieb-Thirring inequalities with improved constants.*

Following Eden and Foias we obtain a matrix version of a generalized Sobolev inequality in one-dimension. This allows us to improve on the known estimates of best constants in Lieb-Thirring inequalities for the sum of the negative eigenvalues for multi-dimensional Schroedinger operators. (Received January 25, 2010)