Jacob W Chapman* (jchapman@uab.edu), 1720 2nd Avenue South, Birmingham, AL 35294, and Günter Stolz. Localization for a Non-Monotone Random Block Operator. Preliminary report.

A non-monotone random block operator arising from quantum spin systems will be introduced. The recent work of Elgart, Shamis, and Sodin, making use of the fractional moment method, implies dynamical localization for this operator, but only at large disorder. Being closely connected to the 1D Anderson model, this block operator should also exhibit dynamical localization at small disorder. We will present our results on positivity of the Lyapunov exponents and the current state of our proof of localization based on a multiscale analysis approach. (Received September 01, 2012)