

1154-81-1833

**Alexander Elgart\*** (aelgart@vt.edu) and **Abel Klein**. *Localization at the bottom of the spectrum of a disordered XXZ spin chain*. Preliminary report.

Quantum spin chains provide some of the mathematically most accessible examples of quantum many-body systems. However, even these toy models pose considerable analytical and numerical challenges, due to the fact that the number of degrees of freedom involved grows exponentially fast with the system's size. We will discuss the recent progress in establishing many body localization at the bottom of the spectrum of a disordered XXZ chain. (Received September 16, 2019)