

1151-81-45

Marius Lemm* (mlemm@math.harvard.edu), Cambridge, MA 02138. *Spectral gaps in frustration-free quantum spin systems.*

In quantum spin systems, the existence of a spectral gap above the ground state has strong implications for the resulting low-energy physics. In this talk, we survey some recent works in which spectral gaps have been established for various frustration-free spin systems by verifying finite-size criteria. This talk is based on collaborations with Abdul-Rahman, Lucia, Mozgunov, Nachtergaele, Sandvik, Yang, and Young. (Received August 04, 2019)