Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Spin dynamics in critical regime of the spin-1/2 **XXZ chain** WANG YANG, JIANDA WU, CONGJUN WU, University of California San Diego — The spin-1/2 Heisenberg XXZ chain is one of the most well-studied quantum integrable models. Although its eigenstates and spectrum are solvable through Bethe ansatz, even understanding its zero temperature spin dynamics remains a challenge. In the axial anisotropic regime, by tuning longitudinal magnetic field, the system undergoes a quantum phase transition, entering into the critical regime. Recent experiments provided some evidences for understanding spin dynamics in the critical regime. Here we investigate the spin dynamics in this regime by form factor methods. Our results can be directly compared with experiments on relevant materials.

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Date submitted: 05 Nov 2015 Electronic form version 1.4