Dynamical properties of the *S*=1/2 random Heisenberg antiferromagnets on the kagome and the triagular lattices

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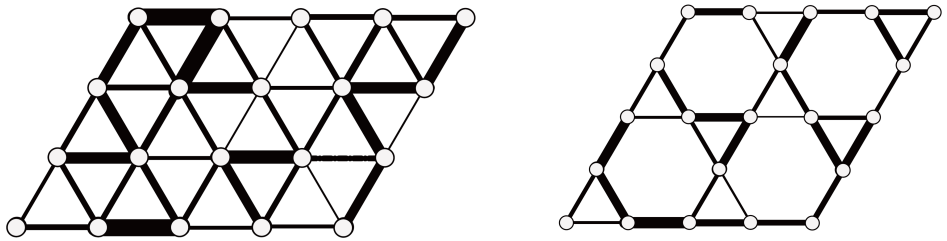
The AF bond-random *S*=1/2 quantum Heisenberg model on the triangular and kagome lattices



$$\mathcal{H} = \sum_{\langle i,j \rangle} J_{ij} \mathbf{S}_i \cdot \mathbf{S}_j$$

$$0 < J(1-\Delta) \leq J_{ij} \leq J(1+\Delta)$$

Δ: The extent of the randomness

$$0 \leq \Delta \leq 1$$

Dynamical structure factor

$$S(q,\omega)$$

Gapless spin-liquid state is realized when the randomness exceeds a critical value Δ_c.

K. Watanabe *et al.*, J. Phys. Soc. Jpn. **83**, 034714 (2014).

H. Kawamura *et al.*, J. Phys. Soc. Jpn. **83**, 103704 (2014).

Inelastic neutron data

Tian-Heng Han *et al.*, Nature **492**, 406 (2012).