

**Mesoscopic Hyperfine Systems:
Open Problems Motivated by Recent Experiments**

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I will present recent experiments on ^{13}C nanotubes, GaAs quantum point contacts, and GaAs few-electron quantum dots in which, in each case, a small number of electrons couples to a larger number of nuclear spins. In all three cases, the behavior is only partly understood: some aspects make sense, others are not understood. I will try in this talk to draw attention to those aspects that are less well understood.

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