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Impurity induced order and moment distribution in quantum antiferromagnets SEBASTIAN EGGERT, University of Kaiserslautern, OLAV SYLJUASEN, Nordita, FABRIZIO ANFUSO, University of Cologne, MARKUS ANDRES, University of Kaiserslautern, STELLAN OSTLUND, University of Gothenburg — The local response to a uniform field around vacancies in antiferromagnetic lattice models is analyzed by using a combination of spin wave calculations, an effective continuous theory, and quantum Monte Carlo simulations. The impurity breaks the sublattice symmetry and causes a tilting of the order parameter towards the field over a large range. This corresponds to an induced antiferromagnetic order *parallel* to the applied field, which is understood in quantitative detail. The relevance for NMR and susceptibility measurements will be discussed.

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