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Microscopic Origin of the Neutron Spin Resonance in Heavy Fermion Superconductor Ce1-xYbxCoIn5 YU SONG, Rice University, JOHN VAN DYKE, University of Illinois at Chicago, I. K. LUM, B. D. WHITE, University of California, San Diego, L. SHU, Fudan University, SOOYOUNG JANG, University of California, San Diego, A SCHNEIDEWIND, PETR CERMAK, Julich Center for Neutron Science, Y. QIU, NIST center for neutron scattering, M. B. MAPLE, University of California, San Diego, DIRK K. MORR, University of Illinois at Chicago, PENGCHENG DAI, Rice University — We have systematically studied the evolution of the neutron resonance mode in Ce1-xYbxCoIn5 (x = 0, 0.05, 0.3) with neutron scattering. We uncover clear dispersive feature of the mode and show that it is quite robust to disorder due to doping. Our results suggest that the resonance in Ce1-xYbxCoIn5 is a paramagnon reminiscent of spin waves in CeRhIn5.

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