

Abstract Submitted
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The Scattering and Coherence of a Fermi Polaron¹ MARKO CETINA, Institute for Quantum Optics and Quantum Information, Innsbruck, MICHAEL JAG, RIANNE LOUS, Institute for Experimental Physics, Innsbruck University and Institute for Quantum Optics and Quantum Information, Innsbruck, FLORIAN SCHRECK, Institute for Quantum Optics and Quantum Information, Innsbruck, RUDOLF GRIMM, Institute for Quantum Optics and Quantum Information, Innsbruck and Institute for Experimental Physics, Innsbruck University, RASMUS SØRENSEN, GEORG BRUUN, Department of Physics and Astronomy, University of Aarhus — We probe the coherence of a strongly interacting ^{40}K impurity in a Fermi sea of ^6Li atoms using time-resolved Ramsey spectroscopy. The measured variation of the coherence with the interaction strength and temperature is well-explained by the low-energy scattering of the impurity in the Fermi liquid picture. For very strong interactions, we observe additional dynamics arising from the dressing of the impurity by its environment.

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