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Bose polarons in the strongly interacting regime.[1] MING-GUANG HU, MICHAEL VAN DE GRAAFF, DHRUV KEDAR, ERIC CORNELL, DEBORAH JIN, JILA, NIST and CU-Boulder — Impurities immersed in and interacting with a Bose-Einstein condensate (BEC) are predicted to form quasiparticle excitations called Bose polarons. I will present experimental evidence of Bose polarons in cold atoms obtained using radio-frequency spectroscopy to measure the excitation spectrum of fermionic ^{40}K impurities interacting with a BEC of ^{87}Rb atoms. We use an interspecies Feshbach resonance to tune the interactions between the impurities and the bosons, and we take data in the strongly interacting regime.

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