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**Spatially resolved RF spectroscopy of a strongly interacting trapped Fermi gas** YONG-IL SHIN, CHRISTIAN SCHUNCK, ANDRE SCHIROTZEK, WOLFGANG KETTERLE, MIT — RF spectroscopy has been used to study unitary limited interactions and pairing in a strongly interacting Fermi mixture. However, most of the spectroscopy experiments have been performed with inhomogeneous samples confined in trapping potentials, eventually limited by the density broadening effects. We developed spatially resolved RF spectroscopy based on the *in situ* imaging of the trapped samples. We obtained a density-broadening-free RF spectrum and clearly identified a gap in the RF spectrum of strongly interacting Fermi mixtures. In this talk, we will present a measurement of the pairing gap energy of a Fermi mixture at the unitarity limit.

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