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**Spectroscopic studies of superfluid atomic Fermi gases**

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We consider trapped atomic Fermi gases with Feshbach-resonance enhanced interactions in temperatures below and above the superfluid critical temperature. We analyze the spectrum of RF(or laser)-excitations for transitions that transfer atoms out of the superfluid state, and compare the results with recent experiments, both at the unitarity regime where a pseudogap is likely and away from it. We also analyze other spectroscopic signatures of pairing, e.g. in optical lattices.