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**Visualization of vortex bound states in polarized Fermi gases at unitarity** HUI HU, Department of Physics, Renmin University of China, XIA-JI LIU, PETER DRUMMOND, School of Physical Sciences, The University of Queensland — We theoretically analyze a single vortex in a spin polarized 3D trapped atomic Fermi gas near a broad Feshbach resonance. Above a critical polarization the Andreev-like bound states inside the core become occupied by the majority spin component. As a result, the local density difference at the core center suddenly rises at low temperatures. This provides a way to visualize the lowest bound state using absorption imaging. As the polarization increases, the core expands gradually and the energy of the lowest bound state decreases.

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