

Abstract Submitted
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**Tuning soft point-contact spectroscopy of URu₂Si₂
from hidden order to antiferromagnetic state through pressure¹**

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J.D. THOMPSON, Los Alamos National Laboratory — We have ex-
tended the soft point-contact spectroscopy technique under nearly
hydrostatic pressure to make charge-spectroscopy measurements of
URu₂Si₂ in both hidden order (HO) and large-moment antiferromagnetic
(LMAF) states. In the HO state at ambient pressure, the spectroscopy
shows two asymmetric peaks around the Fermi energy that emerge be-
low the hidden order temperature $T_{HO} \sim 17.5$ K. In the LMAF state
at higher pressures, the spectra are remarkably similar to those in the
HO state, indicating a similar Fermi surface gapping in the HO and
LMAF states. The energy scale of this gap is, within experimental un-
certainty, consistent with that of the incommensurate spin resonance at
 $Q_1 = (1 \pm 0.4, 0, 0)$, which also is present in both HO and LMAF states.
Our results provide a new clue to unraveling the puzzling HO state.

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