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Origin of Mesoscopic Superconductivity at Cd_3As_2 Point-Contacts LEENA AGGARWAL, ABHISHEK GOURAV SINHA, Indian Institute of Science Education and Research, Mohali (Punjab) India, GOHIL S. THAKUR, Indian Institute of Technology, New Delhi, India, ZEBA HAQUE, Indian Institute of Technology, New Delhi, ASHOK K. GANGULI, Indian Institute of Technology, New Delhi,nstitute of Nano Science Technology, Mohali ,(Punjab) India, GOUTAM SHEET, Indian Institute of Science Education and Research, Mohali (Punjab) India — I will present our point-contact spectroscopy results on the nature and origin of superconductivity that is observed at the mesoscopic interfaces between the conventional metals and the 3-D Dirac semimetal Cd_3As_2. From our experiments with metallic tips of varying mechanical properties we show that the local superconducting phase does not emerge due to pressure. We show that quantum fluctuations may play a significant role in the emergence of such novel superconducting phase.

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