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## **【516】 Altermagnetism at manganite/cuprate interface**

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We report a resonant inelastic X-ray scattering study of multilayers made from a cuprate high-T<sub>c</sub> superconductor and a magnetic perovskite manganite [1]. Our study reveals combined spin and orbital order at the interfacial cuprate monolayer constituting a 2D altermagnetic state. Our findings significantly advance state of the art in the field of altermagnets that are of great current interest since they enable new kinds of spintronic and magnonic devices.

[1] Subhrangsu Sarkar, Roxana Capu, Yurii Pashkevich, Jonas Knobel, Marli R Cantarino, Abhishek Nag, Kurt Kummer, Davide Betto, Roberto Sant, Christopher W Nicholson, Jarji Khmaladze, Ke-Jin Zhou, Nicholas B Brookes, Claude Monney, Christian Bernhard, PNAS Nexus, volume 3, page 100 (2024).

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