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## Proximity effects in cuprate/manganite multilayers

Recently we observed an intriguing, magnetic-field-induced insulator-to-metal transition in  $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{Pr}_{1-x}\text{Ca}_x\text{MnO}_3$  (YBCO/PCMO) multilayers [1]. In the low field regime, the response of these multilayers is highly resistive and resembles the one of granular superconductors or frustrated Josephson-networks. Notably, a coherent superconducting response can be restored with a large magnetic field. The latter also suppresses the charge/orbital order of the PCMO layers towards a ferromagnetic state. This coincidence suggests an intimate relationship between the insulator-to-superconductor transition in the YBCO layer and the suppression of the charge/orbital order in the PCMO. I will discuss the evidence, based on resonant x-ray scattering experiments, that the latter induces (or strongly enhances) a static Cu-CDW order in YBCO that is intertwined with superconductivity.

[1] B.P.P. Mallett *et al.*, Phys. Rev. **B 94**, 180503(R) (2016).