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Similarities, diferences and the pairing interaction of the Fe-based and cuprate superconductors[1]

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The undoped multi-orbital, multi-Fermi surface Fe-based superconductors exhibit metallic antiferromagnetism while the undoped cuprates are insulating Mott antiferromagnets which when optimally doped have one large Fermi surface. Nevertheless, both systems exhibit a neutron spin resonance in the superconducting state providing evidence of an unconventional sign changing superconducting gap which appears in proximity or coexisting with antiferromagentism. Here we will examine what the similarities and differences of these two classes of materials tell us about the pairing mechanism.

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