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Identifying d-vectors in spin-orbit coupled multi-orbital superconductors CHRISTOPH PUETTER, HAE-YOUNG KEE, University of Toronto — In multi-orbital systems, Hund's interaction has been recognized to play a significant role in spin-triplet pairing. On the other hand, spin-orbit coupling has been treated as a perturbation, which is not a good approximation in 4d or 5d transition metal compounds. We have treated both effects on an equal footing in t2g orbital systems and studied their combined effect on spin-triplet superconductivity. We also discuss the implications of our results for spin-triplet candidate materials.

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