

Abstract for an Invited Paper
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Physical properties, transition metal doping and phase diagrams in 122 and related iron pnictide superconductors. Is there a unified picture?

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A brief overview of the interplay between magnetism, structure and superconductivity in $BaFe_2As_2$ and related compounds will be presented, with examples of different “knobs” (or perturbations) that allow us to change the physical properties of these materials and with a discussion of empirical rules. The 122 materials will be contrasted to the recently discovered $K_xFe_{2-y}Se_2$ and related compounds.