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Some of our fundamental studies on iron-based superconductors

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Superconductors have nano- and meso-length scale features (e.g. dopant distributions, electronic non-uniformity, stripe spins) that collectively manifest in the percolative zero resistance in a bulk sample. As the causes of superconductivity remains unknown, the variations of local chemical, electronic, and magnetic states should give clues to this phenomenon. In this talk, I will review some of our published fundamental research on iron-based superconductors, which probe structure, electronic, and magnetic details in single crystals to understand bulk superconducting behavior.

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