

## Possible Pairing Scenarios of Fe-based Superconductors

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I will review recent experiments of Fe-based superconducting compounds, then discuss possible pairing symmetry and pairing glue, constraints of maximum  $T_c$ , etc. The main experiments that I will focus on are NMR, Knight shift, tunneling conductance. These experiments strongly indicate that the pairing symmetry of the Fe-based superconductors (SC) is unconventional non-s-wave gap with lines of node. Then the natural question about the pairing glue will be discussed. For this, I will focus on the similarities among HTSC cuprate SC, Fe-based SC, and PuCoGa5 SC and various heavy fermion SC. Finally I will suggest a possible scenario of pairing mechanism for FeAs superconductors and future directions of investigations for this exciting new SC.

Keywords : FeAs superconductors, pairing symmetry, unconventional pairing gaps