

Abstract Submitted  
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**Phase diagram of 11 type iron-based superconductors from FeSe to FeTe<sup>1</sup>** YOSHIHIKO TAKANO, YOSHIKAZU MIZUGUCHI, National Institute for Materials Science (NIMS) — FeSe has the simplest crystal structure in the iron-based superconductors. The structural phase transition from tetragonal to orthorhombic took place around 70K without magnetic ordering. Surprisingly, the superconducting transition temperature  $T_c$  raised from 13K to 37K under the pressure of around 4-6GPa. We also observed the strong relation between  $T_c$  and  $1/T_1T$  in NMR under pressure, which suggesting that the superconductivity and spin fluctuation is closely related. STM measurements have performed at low temperature. The detailed information will be presented. On the other hand, pure FeTe shows structural and magnetic transition around 70K, and superconductivity was not observed. Recently we have succeeded to realize superconductivity in FeTe by S doping around 10K. Phase diagram of 11 type from FeSe to FeTe were summarized and discussed about the relation of superconductivity and magnetism.

<sup>1</sup>Tsukuba Univ. JST TRIP

Yoshihiko Takano  
National Institute for Materials Science (NIMS)

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