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**Modulation of Pairing Symmetry with Bond Disorder in Iron-based Superconductors**[1] DAO-XIN YAO, YAO-TAI KANG, School of Physics and Engineering, Sun Yat-Sen University, WEI-FENG TSAI, Department of Physics, National Sun Yat-sen University — We study a simple two-orbital t-J1-J2 model for iron-based superconductors in the presence of a bond disorder (via nearest-neighbor bond-dilution). By using Bogoliubov-de Gennes approach, we self-consistently calculate the local pairing amplitudes and the corresponding density of states, which demonstrate a change of dominant pairing symmetry from the s+- wave to d-wave as long as J2 J1. Although the system exhibits spatially inhomogeneous pairing in weak correlations with a given realization of disorder, it is still in sharp contrast to the case with potential disorder, where the superconducting islands and the insulating sea are both present in the strong disorder regime. Moreover, from the detailed examination of the pairing gap as well as the superfluid density, the superconducting transition here is suggested to be beyond the conventional Abrikosov-Gorkov consideration.

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