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**Electronic structure of iron-based superconductors with thick perovskite-blocking layers** HIROKI NAKAMURA, MASAHIKO MACHIDA, Japan Atomic Energy Agency — Since superconductivity in  $\text{LaFeAsO}_{1-x}\text{F}_x$  was found, various families of iron-based superconductors have been discovered. Recently, a new type whose blocking layer structure is perovskite-based has been reported, and  $T_c$  of this family has reached almost 40K. In this paper, we calculate electronic structures of the iron-based superconductors with thick perovskite layers by using first-principles density functional theory and compare them with those of other iron-based superconductors. We also discuss ability of application of those superconductors.

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