

無限層ニッケル酸化物超伝導体

Superconductivity in infinite-layer nickelates



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Ever since their discovery, superconductivity in cuprates has motivated the search for materials with analogous electronic or atomic structure [1]. Here we present how soft chemistry approaches can be used to synthesize superconducting infinite layer nickelates from their perovskite precursor phase, using topotactic reactions [2]. We will discuss our preliminary understanding of aspects that are similar and different from the cuprates, as well as initial exploration of the compositional variations accessible in this materials system.

[1] J.G. Bednorz, and K. A. Muller, *Z Phys. B***64**, 189-194 (1986).

[2] D. Li, K. Lee, B. Y. Wang, M. Osada, S. Crossley, H. R. Lee, Y. Cui, Y. Hikita, and H. Y. Hwang, *Nature* **572**, 624-627 (2019).

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