

Abstract Submitted
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Conductivity of La 0.75Sr0.25BO3 perovskite-type oxides¹ NING CHEN, YUN KANG, School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China, YANG LI, Department of Engineering Science and Materials, University of Puerto Rico at Mayaguez, PR 00681, USA, FUSHEN LI, LIFEN LI, School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China — We perform a joint experimental and theoretical study of the conductivity and electronic structures in $\text{La}_{0.75}\text{Sr}_{0.25}\text{AO}_3$ ($A = \text{Cr, Mn, Fe and Co}$) with perovskite structure. The samples with pure phase are prepared by the solid reaction. The electrical conductivity measurements indicate that in $\text{La}_{0.75}\text{Sr}_{0.25}\text{AO}_3$ the conductivity orderly increases for Cr, Mn, Fe and Co. The first-principles simulations show that conductivity depends on electronic structure. The d electron increasing in transition metal atoms results in carrier concentration increasing.

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