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Nota di contenuto	Chapter 1: Introduction -- Chapter 2: Ab-initio Approaches to Correlated Materials -- Chapter 3: Dft Trends In The Electronic Structure and Magnetic Properties of Reduced Ruddlesden-popper Nickelates -- Chapter 4: Comparing Layered Nickelate Superconductors Within Dft+Dmft -- Chapter 5: Many-body Trends of Reduced Ruddlesden-popper Nickelates -- Chapter 6: Conductivity of Infinite-layer Nickelate As A Probe of Spectator Bands -- Chapter 7: Summary and Outlook.
Sommario/riassunto	This thesis demonstrates the value of theoretical approaches in the

discovery of new superconducting materials. It reports a detailed study of the recently discovered nickel-oxide (nickelate) superconductors using multiple first-principles computational tools, from density functional theory to dynamical mean field theory. In the context of superconductivity, discoveries have generally been linked to serendipitous experimental discovery; this thesis reports some of the few examples of predictions of new superconductors that have later been realized in practice, a prime example of the significance of the methodology it expounds. Overall, it represents a seminal systematic work in the electronic structure theory of the emergent field of nickelate superconductivity.
