Record Nr. UNINA9910369931303321 Autore Wang Eryin Titolo Angle-Resolved Photoemission Spectroscopy Studies of 2D Material Heterostructures / / by Eryin Wang Singapore:,: Springer Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa 981-15-1447-X **ISBN** Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (XIV, 79 p. 55 illus., 51 illus. in color.) Collana Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053 530.41 Disciplina Soggetti Superconductivity Superconductors Nanotechnology Spectrum analysis Microscopy Nanoscience Nanostructures Strongly Correlated Systems, Superconductivity Spectroscopy and Microscopy Nanoscale Science and Technology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Experimental techniques -- Band engineering in van Nota di contenuto der Waals heterostructures Graphene/h-BN -- Simpler van der Waals heterostructure-Twisted bilayer graphene -- Proximity effect between topological insulator and d-wave superconductors -- Effect of magnetic Cr deposition on Bi2Se3 surface -- Conclusion. Sommario/riassunto This book focuses on angle-resolved photoemission spectroscopy studies on novel interfacial phenomena in three typical twodimensional material heterostructures: graphene/h-BN, twisted bilayer graphene, and topological insulator/high-temperature superconductors. Since the discovery of graphene, two-dimensional materials have proven to be quite a large "family". As an alternative to searching for other family members with distinct properties, the

combination of two-dimensional (2D) materials to construct

heterostructures offers a new platform for achieving new quantum phenomena, exploring new physics, and designing new quantum devices. By stacking different 2D materials together and utilizing interfacial periodical potential and order-parameter coupling, the resulting heterostructure's electronic properties can be tuned to achieve novel properties distinct from those of its constituent materials. This book offers a valuable reference guide for all researchers and students working in the area of condensed matter physics and materials science.