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	Nota di contenuto	Sterile-Neutrino/Dark-Fermion Dark Matter: Searches in the X-ray Sky, the Nuclear Physics Laboratory and in Galaxy Formation -- Constraining the small-scale clustering of dark matter with stellar streams -- Understanding Dwarf Galaxies in order to Understand Dark Matter -- Primordial black holes as dark matter and generators of cosmic structure -- Quantum metrology techniques for axion dark matter detection -- Light Dark Matter Searches at Accelerators and the LDMX Experiment -- Direct Detection of Sub-GeV Dark Matter: Models, and Constraints -- FASER and the Search for Light, Weakly-Interacting Particles -- Interplay of Dark Matter Direct Detection and Neutrino Experiments -- Why I think that dark matter has large self interactions -- Primordial black holes as dark matter: new formation scenarios and astrophysical effects -- Versatile Physics with Liquid Xenon Dark Matter Detectors -- The origin of galaxy scaling laws in LCDM -- Searching for light dark matter with positron beams -- Some direct detection signatures of sub-MeV dark matter -- 21 cm Absorption as a Probe of

Dark Photons -- Some Minimal Cosmologies for Dark Sectors -- The SENSEI experiment -- Indirect Probes of Light Dark Matter -- Halometry from Astrometry: New Gravitational Methods to Search for Dark Matter -- Principles for an Era in Dark Matter Model Building and Their Application to Complex Dark Sectors.

Sommario/riassunto	Based on a Simons Symposium held in 2018, the proceedings in this volume focus on the theoretical, numerical, and observational quest for dark matter in the universe. Present ground-based and satellite searches have so far severely constrained the long-proposed theoretical models for dark matter. Nevertheless, there is continuously growing astrophysical and cosmological evidence for its existence. To address present and future developments in the field, novel ideas, theories, and approaches are called for. The symposium gathered together a new generation of experts pursuing innovative, more complex theories of dark matter than previously considered.This is being done hand in hand with experts in numerical astrophysical simulations and observational techniques—all paramount for deciphering the nature of dark matter. The proceedings volume provides coverage of the most advanced stage of understanding dark matter in various new frameworks. The collection will be useful for graduate students, postdocs, and investigators interested in cutting-edge research on one of the biggest mysteries of our universe.