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	Nota di contenuto	Part I: Introduction -- Generalities about Dark Matter -- Part II: Direct and Indirect WIMP Searches -- Direct Detection of Wimps -- Indirect Detection -- Focus on AMS-02 Anti-protons Results -- Part III: LHC Searches -- Dark Matter Searches at the LHC -- The EFT Approach and its Validity -- Simplied Models -- Relic Density.- Part IV: Complementary Searches in the Simplied Model Framework -- A U(1)' Gauge Mediator -- A 750 Gev Pseudo-scalar Mediator -- Conclusions.
	Sommario/riassunto	This thesis covers several theoretical aspects of WIMP (weakly interacting massive particles) dark matter searches, with a particular emphasis on colliders. It mainly focuses on the use of effective field theories as a tool for Large Hadron Collider (LHC) searches, discussing in detail the issue of their validity, and on simplified dark matter models, which are receiving a growing attention from the physics community. It highlights the theoretical consistency of simplified models, which is essential in order to correctly exploit their potential and for them to be a common reference when comparing results from

different experiments. This thesis is of interest to researchers (both theorists and experimentalists) in the field of dark matter searches, and offers a comprehensive introduction to dark matter and to WIMP searches for students and non-experts.