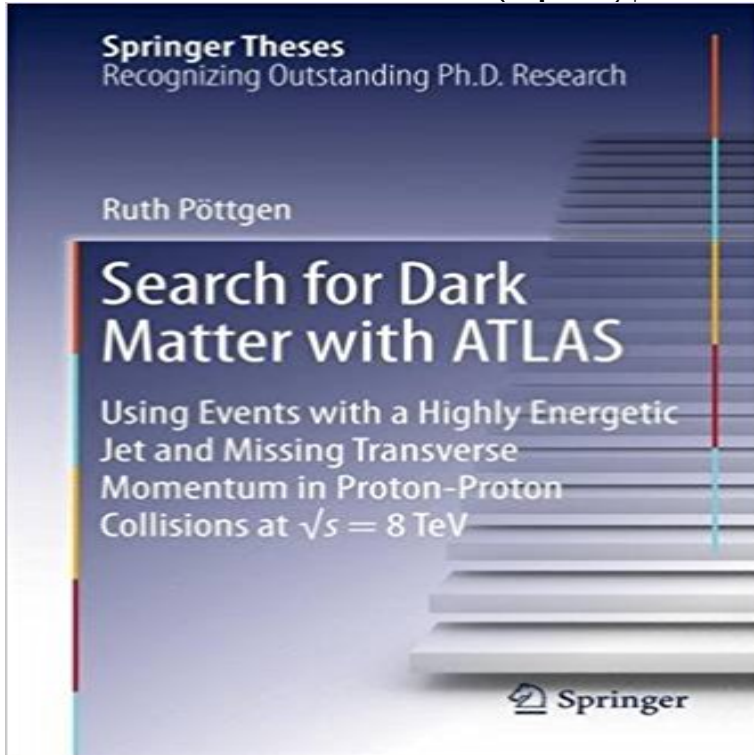


Search for Dark Matter with ATLAS: Using Events with a Highly Energetic Jet and Missing Transverse Momentum in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV (Springer Theses)



This thesis describes in detail a search for weakly interacting massive particles as possible dark matter candidates, making use of so-called mono-jet events. It includes a detailed description of the run-1 system, important operational challenges, and the upgrade for run-2. The nature of dark matter, which accounts for roughly 25% of the energy-matter content of the universe, is one of the biggest open questions in fundamental science. The analysis is based on the full set of proton-proton collisions collected by the ATLAS experiment at the Large Hadron Collider at $\sqrt{s} = 8$ TeV. Special attention is given to the experimental challenges and analysis techniques, as well as the overall scientific context beyond particle physics. The results complement those of non-collider experiments and yield some of the strongest exclusion bounds on parameters of dark matter models by the end of the Large Hadron Collider run-1. Details of the upgrade of the ATLAS Central Trigger for run-2 are also included.?

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document is the final report of the ATLAS-CMS Dark Matter Forum, (2014) Simplified Models for Dark Matter and Missing Energy Searches at the LHC with boson-tagged jets in proton-proton collisions at $\sqrt{s} = 8$ TeV with the ATLAS **Search for Dark Matter with ATLAS - Springer** This thesis describes in detail a search for weakly interacting massive particles as possible dark matter candidates, making Springer Theses. Free Preview. 2016. Search for Dark Matter with ATLAS. Using Events with a Highly Energetic Jet and Missing Transverse Momentum in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV. **Event Selection - Springer** This thesis describes in detail a search for weakly interacting massive particles as possible dark matter candidates, making Springer Theses. Free Preview. 2016. Search for Dark Matter with ATLAS. Using Events with a Highly Energetic Jet and Missing Transverse Momentum in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV. **Prospects with Future LHC Data - Springer** Book Title: Search for Dark Matter with ATLAS Book Subtitle: Using Events with a Highly Energetic Jet and Missing Transverse Momentum in **Caterina Doglioni - Particle Physics** Title, Search for dark matter with ATLAS : using events with a highly energetic jet and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 8$ TeV. **Search for Dark Matter with ATLAS: Using Events with a Highly** Buy Search for Dark Matter with ATLAS: Using Events with a Highly Energetic Jet and Missing Transverse Momentum in Proton-Proton Collisions at $\sqrt{s} = 8$ TeV