



Canadian Association
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Type: **Invited Speaker / Conférencier(ère) invité(e)**

(I) Physics in the High-Luminosity Era with the ATLAS Detector

Tuesday 7 June 2022 08:55 (25 minutes)

Scheduled to begin data taking in 2029, the High-Luminosity Large Hadron Collider (HL-LHC) will be the pre-eminent energy frontier collider for the foreseeable future. Its unique dataset of unprecedented size will allow for a huge range of precision measurements and searches for new physics. This talk will outline the physics opportunities for the ATLAS detector in utilizing this dataset, highlighting in particular what we expect to learn about the Higgs boson and the mechanism of electroweak symmetry breaking. Challenges related to operating at extremely high pile-up will be discussed, as well as plans to exploit the capabilities of the upgraded ATLAS detector. Finally, the complementary and critical role that the HL-LHC plays in the landscape of future colliders will be described.

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Session Classification: T1-3 New Directions in Accelerator-Based Experiments: Future Collider Experiments - Energy Frontier (PPD) | Nouvelles voies fondées sur des accélérateurs: expériences futures avec collisionneurs - frontière d'énergie (PPD)

Track Classification: Symposia Day (Tues. June 7) / Journée de symposiums (mardi, le 7 juin): Symposia Day (PPD) - New Directions in Accelerator-Based Experiments