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## **(G\*) Dark matter model constraints using a fast simulation of the ATLAS detector**

*Wednesday 9 June 2021 16:45 (10 minutes)*

Data collected at the LHC are analyzed by the ATLAS collaboration for evidence of dark matter. In this talk, a fast simulation of the ATLAS detector response using the Delphes software is assessed for dark matter models with a leptonically decaying  $Z$  boson and a pair of dark matter particles ( $\chi\bar{\chi}$ ) in the final state. Limits for the Two Higgs Doublet plus pseudoscalar (2HDMa) dark matter model are obtained using simplified systematics, and compared to limits obtained using the more complex standard ATLAS analysis.

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