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ATLAS software tools to handle ROOT RNTuple

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The software of the ATLAS experiment at the CERN LHC accelerator contains a number of tools to analyze (validate, summarize, peek into etc.) all its official data formats recorded in ROOT files. These tools - mainly written in the Python programming language - handle the ROOT TTree which is currently the main storage object format of ROOT files. However, the ROOT project has developed an alternative to TTree, called RNTuple. The new storage format offers significant improvements and ATLAS plans to adopt it in LHC Run 4. Work is ongoing to enhance the tools in order to handle the RNTuple storage format in addition to TTree in a transparent for the user way. The work is aided by modern and detailed APIs provided by RNTuple. We will present the progress made and lessons learnt.

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