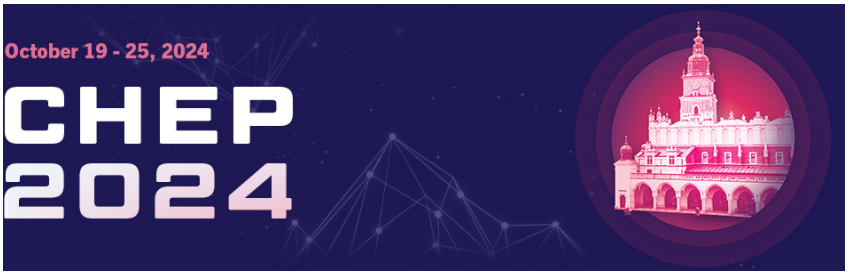

Contribution ID: **70** Type: **Talk**

Carbon, Power, and Sustainability in ATLAS Computing

Wednesday 23 October 2024 16:15 (18 minutes)

The ATLAS Collaboration operates a large, distributed computing infrastructure: almost 1M cores of computing and almost 1 EB of data are distributed over about 100 computing sites worldwide. These resources contribute significantly to the total carbon footprint of the experiment, and they are expected to grow by a large factor as a part of the experimental upgrades for the HL-LHC at the end of the decade. This contribution describes various efforts to understand, monitor, and reduce the carbon footprint of the distributed computing of the experiment. This includes efforts to construct a full life-cycle assessment (LCA) model for the carbon impact of ATLAS distributed computing, all with the goal of making recommendations for sites to reduce their carbon footprint for the HL-LHC.

Authors: SCHIEN, Daniel; KUWERTZ, Emma Sian (University of Bristol); SHABAJEE, Paul (University of Bristol); WALKER, Rodney (Ludwig Maximilians Universitat (DE)); MARSHALL, Zach (Lawrence Berkeley National Lab. (US))

Presenter: MARSHALL, Zach (Lawrence Berkeley National Lab. (US))

Session Classification: Parallel (Track 7)

Track Classification: Track 7 - Computing Infrastructure