

Opportunities of OO and pO collisions at the LHC

CERN, 4-10 February 2021

Context:

- scientific case of collisions with light ions reviewed at the HL-LHC workshop, and documented in <https://arxiv.org/abs/1812.06772>
- further progress since then justifies an update, in view of the possibility of oxygen collisions during Run 3
- technical feasibility during Run 3 requires dedicated efforts, allocation of resources and, therefore, community support

Goals of the Workshop:

- review the scientific case, the technical challenges and the LHC performance projections
- highlight the scientific motivations to collect oxygen data during Run 3, and the potential returns as a function of delivered luminosity
- summarize the findings in a short document, as starting point for future discussions of the Run 3 plans within the relevant technical committees and boards (LPC, LHCC, RB, ...)
- a summary will be given by the organizers during the open session of the March LHCC
- the workshop is NOT meant to issue recommendations, but to present, discuss and document the scientific and technical perspectives of the theoretical, experimental and accelerator communities.