Contribution ID: **103** Type: **Invited**

Particle physics in the era of Artificial Intelligence

Thursday, January 4, 2018 3:30 PM (45 minutes)

The present landscape and the open questions in particle physics will be briefly reviewed, showing that they call for new means of investigation both towards higher energy and towards more sensitivity to small couplings.
CERN is preparing actively, according to the recommendation of the 2013 European Strategy, for an ambitious post-LHC accelerator complex. The 100km circumference Future Circular Collider (FCC) study comprise an e+e- high luminosity collider covering the full electroweak scale (90-365 GeV E_CM), a 100 TeV pp collider as ultimate goal; the possibility of heavy ions and and e-p collisions are considered. A similar project is under study in China. Linear e+e- colliders would be of interest if electroweakly coupled particles exist above the top quark mass and below about 1.5 TeV are indicated at the LHC. For higher energy lepton collisions, muon colliders become attractive.

Summary

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Session Classification: Thursday PM

Track Classification: Particle Physics and Artificial Intelligence