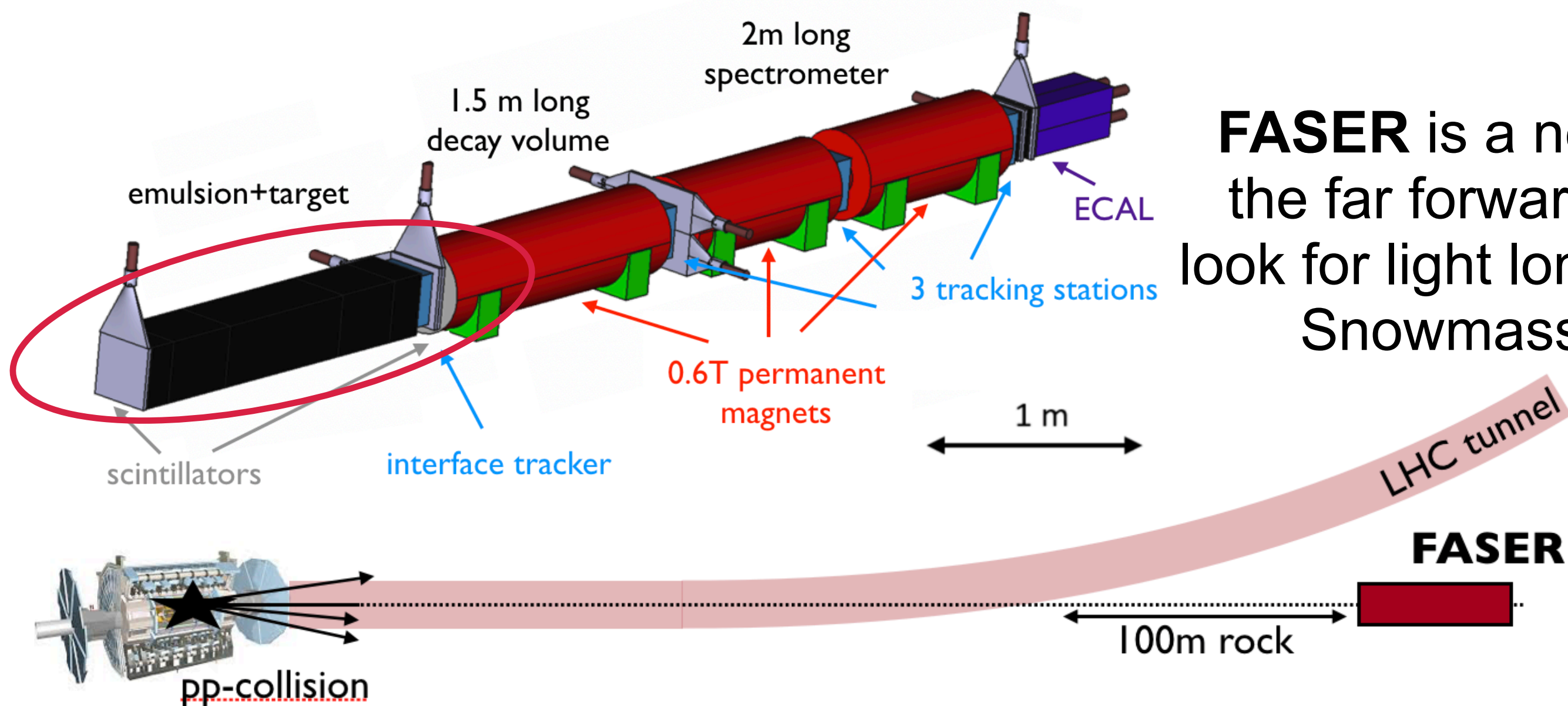


# FASER / FASERnu

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## FASER / FASERnu



**FASER** is a new LHC experiment (currently under construction) in the far forward region of the LHC. It consists of a spectrometer to look for light long-lived particles and the **FASERnu** neutrino detector. Snowmass LOIs for FASERnu and FASER were submitted.

## FORWARD QCD REQUIREMENTS AND OPPORTUNITIES

The leading uncertainty on the neutrino cross section measurement is related to the forward neutrino flux. We need to **quantify** and **reduce** the uncertainties for the perturbative and non-perturbative components (tuning uncertainties).

The forward neutrino flux provides a complementary **probe of forward particle production** and is sensitive to gluon PDF at low  $x$  and intrinsic charm.

DIS Neutrino interactions can also be used to probe PDFs, including the strange quark PDF using  $\nu s \rightarrow \ell c$ . Different nuclear targets are possible.

We propose to study these opportunities.

