

Reinventing the Wheel

Tuesday 24 May 2016 11:45 (30 minutes)

This talk shows a concept of a mechanical support structure for the ATLAS inner tracker (ITk) high-luminosity LHC upgrade.

Traditionally the silicon modules for the ITk strip-endcap detector were mounted on sandwiched carbon fiber discs. In order to minimize the amount of used material we looked into changing these discs with pretensioned spoked carbon fiber wheels, combining low-mass with intrinsic stiffness.

This talk will show the process, challenges faced and lessons learned, when coping with environmental factors and mechanical requirements and ability to manufacture such a wheel. Showing the progress from the initiation of a concept, towards the current status in realization and validation of prototypes.

Summary

Presenter: VAN DONGEN, Jesse (Nikhef National institute for subatomic physics (NL))