Protons down TI 8

On 23rd October there was great excitation in the Prévessin control room when, on the first attempt, a proton beam extracted from the SPS got transported down the new SPS to LHC transfer line TI 8 over some 2.5 km, and was stopped on an absorber block just a few metres away from the LHC tunnel.

The picture below shows a nicely centered beam spot on a luminescent screen near the end of the TI 8 tunnel.

The fact that the beam passed down so well is a sure sign that the beam line elements have been carefully aligned but also that the understanding of the magnetic model of the line is good.

The beam energy at SPS extraction was measured last year at 449.2 GeV and the TI 8 magnet currents were adjusted to correspond to this energy using calibration curves. A problem detected in the course of the first measurements was later traced to a database error in the strength calculation of two quadrupoles.

The control system worked fine and, after the initial phase required for fine-tuning with beam, the instrumentation performed also in a very
satisfactory way. Many measurements have been made which are currently being analysed.

Some members of the AB, AT and TS departments involved in the beam transfer line project and this test were joined on this occasion by the Director General and the LHC Project Leader, Lyn Evans.

Congratulations to everybody who was involved with designing building and commissioning TI 8! Great job indeed!

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