



Séminaire du Laboratoire de l'Accélérateur Linéaire

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Status of UA9 the crystal collimation experiment at the CERN-SPS

UA9 was operated in the CERN-SPS for more than two year in view of investigating the feasibility of the halo collimation assisted by bent crystals. Silicon crystals 2 mm long with bending angles of about 150 microrad were used as primary collimators. The crystal collimation process was steadily achieved through channeling with high efficiency. The crystal orientation was easy to be set and optimized with the installed goniometer having an angular reproducibility of about $\pm 10 \mu\text{rad}$. The loss profile in the area of the crystal-collimator setup was comparable to the simulation expectations, whilst the off-momentum particle population resulting from the interaction of the primary halo with the bent crystal is clearly reduced in channeling orientation. The crystal channeling efficiency was also measured to be consistent with simulations and with single pass data collected in the North Area of the SPS. The accumulated observations support our expectation that the coherent deflection of the beam halo by a bent crystal should strongly enhance the collimation efficiency in hadron collider. For this reason UA9 will be soon extended to the CERN-LHC.

Salle 101 du LAL - Bât. 200, Orsay

Thé et café seront servis 1/4 h avant le séminaire

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