

John Adams Institute for Accelerator Science Lecture Series

Thursday 4th July 2013 at 2:30pm
Seminar Room, Denys Wilkinson Building

Manipulation of transverse beam distribution in circular accelerators: beam splitting by particles trapping into resonance islands

The lecture will be delivered by

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CERN**

Abstract: Non-linear effects in accelerators are normally considered harmful and should be carefully avoided or at least minimised. Nevertheless, they can also be used to manipulate charged particle beams in circular accelerators. This is already used in the example of slow extraction in synchrotrons. A novel technique has been proposed to split beams in the transverse plane. This can be achieved by means of trapping particles into resonance islands. In this talk the principle is reviewed and the results of numerical simulations as well as of experiments performed in the CERN Proton Synchrotron are discussed in detail.

