

# The Beams and Applications Seminar Series

## Conversion of a Transverse Density Modulation into a Longitudinal Phase Space Modulation using the Emittance-Exchange Technique

**Dr. Yin-e Sun - FNAL**

**Bldg. 401, Room B2100**

**Friday, December 04, 1:30 PM**

Host: Marion White, ASD

We report our experimental demonstration of longitudinal phase space modulation using the transverse-to-longitudinal emittance exchange technique [1]. Vertical slits were inserted upstream of the emittance exchange beamline to introduce a horizontal profile modulation in the beam. We then observed modulation in the beam energy at the spectrometer downstream of the emittance exchange beamline. This is a clear demonstration of the transverse-to-longitudinal phase space exchange. Numerical simulations of the experiment will also be presented.

[1] Y.-E Sun and P. Piot, Proc. LINAC08, 498 (2008).

**For more information visit**

[http://aps.anl.gov/News/Meetings/Beams\\_and\\_Applications\\_Seminars/](http://aps.anl.gov/News/Meetings/Beams_and_Applications_Seminars/)

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