

# Highlights from EPAC 2004

emphasis:

FAIR, J-PARC, SNS

Light Sources

X-ray FELs

LHC

e-cooling (FNAL, KEK, RHIC, Kyoto)

presentations:

Karl Bane - wake fields of short bunches, including CSR & roughness;  
limit value independent of effect; potential energy dominates  
the CSR wake

Paul Emma - short bunches for LCLS and experiments in SPPS

Vladimir Shiltsev - Tevatron performance & beam-beam compensation

Igor Meshkov - history of electron cooling

James Safranek – SPEAR-3 commissioning,  $\alpha_2$  effect on acceptance  
MATLAB tools

Philipp Lebrun – LHC

Robert Aymar – accelerator projects role of CERN

Lewellyn Smith – nuclear fusion

Sandro Ruggiero – non-scaling FFAG as proton driver for BNL & RHIC

Non-scaling FFAG (Ruggiero, also Sessler & Keil, experiment planned  
at TRIUMF or UK? – Shane Koscielnak)

Schottky cooling in RHIC

rf barrier bucket gymnastics at FNAL (C. Bhat)

light-source stability (time scale., spectra, orbit interlocks, MATLAB tools)

- D. Reistad – 3 instabilities studied in CELSIUS e-cooler;  
promised to send papers;  
V. Parkhomchuk developed heating model;  
are these instabilities related to our e-cloud instabilities?  
can we provoke an e-cloud instability in CELSIUS?
- T. Guenzel – impedance model for ESRF; with many Gdfidl simulations;  
invited him to give a forum at CERN
- A. Ruggiero – can we use FFAG principle to design a CLIC final focus?