COLLOQUIUM NOTICE

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ACCELERATORS AND LIGHT SOURCES FOR SCIENTIFIC APPLICATIONS – TRENDS AND OPPORTUNITIES

Prof. Vladimir N. Litvinenko
Duke University, Dept. of Physics and FEL Laboratory

We are living in a very exciting time, when many traditional methods of electron accelerators for high-energy physics and light sources are reaching their limits. Apart from heavy particle accelerators, neutrino factories and muon-colliders, the new focus is on the development of linear and recirculating electron accelerators for advanced scientific applications. The recirculating and energy recovering accelerators blend together many advantages of linear and circular accelerators. In combination with advanced light generating techniques, such as FELs and Compton scattering, they promise novel features for frontier science – intense beams of femtosecond X-rays and polarized beams of mono-energetic gamma-rays in 10 GeV range – to mention a couple. The challenges of preserving the high quality of intense electron beams open a new chapter for accelerator physics. I will discuss trends of these developments. I will use some recent developments, including those at Duke, in generating monochromatic essentially 100% polarized photons with tunable energy and polarization. I will also illustrate the unique possibilities for nuclear, material and biological sciences opened by these sources.

Wednesday, November 7, 2001
2:00pm
CEBAF Center Auditorium

Refreshments before the seminar
beginning at 1:30 pm

For further info, contact Lia Merminga at x6281