

ACCELERATOR SEMINAR

Plasmonic Approaches for Spin-Polarized Metallic Photocathodes

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We have explored new photocathode materials and schemes to develop strategies and technologies for next generation nuclear physics accelerator capabilities, particularly for Electron Ion Colliders (EIC). We have applied an experimental setup for light incidence at an acute angle onto the photocathode surface in UHV, in order to excite surface Plasmon resonance, hence increasing light absorption by the metallic surface and test the photo-emitted current. We have also used oblique incidence thin film deposition onto gratings to achieve optimized Plasmonic excitation leading to stronger EM field and also lower emittance. We have tested adequate software to model our samples and simulate our experimental results. In parallel, we investigated magnetic thin films incorporating plasmonic materials using alloys such as "Silmanal". We have been able to achieve such films and are at present investigating deposition onto gratings to extend our studies onto spin-polarized photoemission.

Thursday, November 3, 2016

11:00 a.m.

ARC, Room 231

Coffee before seminar beginning at 10:45 a.m.