

BLIN4: Sub-GeV gamma spectrometry

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In solid-target high-power laser experiments up to 30% of the laser energy is theoretically predicted to be converted into gamma rays with a wide sub-GeV energy distribution. The extremely high multiplicity of prompt radiation as well as the generated EMP require the use of specific detection systems, quite different from those used in nuclear physics experiments at accelerator facilities. The design of a high-resolution 0-degree Compton spectrometer, covering an energy range from several MeV up to 0.1 GeV will be presented.