

A photon-photon scattering machine based on twin photo-injectors and Compton sources

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We will illustrate a conceptual lay-out for a machine capable to provide two colliding photon beams with energy 0.5-1.5 MeV at high luminosity, in excess of 10^{25} , so to drive a photon-photon scattering experiment able to produce a few events per day. The machine is quite compact and comprises two high power Yb:Yag collision lasers mutuated from the ELI-NP-GBS project. Strong focusing of the two counter-propagating high brightness electron beams is needed to achieve the required luminosity and proper beam deflection must be applied to avoid contamination from e-/e- interactions. A straw man machine design is presented with predicted costs.

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