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Study of an hybrid source using channeling

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The CLIC study consider the hybrid source using channeling as the baseline for positron production. Basically, the hybrid source uses a few GeV electron beam impinging on a crystal tungsten radiator. With the tungsten crystal oriented on its <1 1 1> axis its results intense relatively low energy photons due to channeling radiation and coherent bremsstrahlung.

Those photons are then used to impinge on an amorphous tungsten target to produce positrons from e+e-pairs creation.

In my presentation I will describe the study of the positrons variation yield and the peak energy deposition density in the target according to the distance between the crystal and the amorphous targets.

Primary author: DADOUN, Olivier (LAL)

Presenter: DADOUN, Olivier (LAL)

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