

test beam results with an ultra thin LumiCal detector planes

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The luminosity of the Future Linear Colliders will be measured by counting Bhabha scattering events at low angles coincident in the two calorimeters (LumiCal) located symmetrically at opposite sides of the interaction point. The LumiCal has been designed as a 30 layers sampling calorimeter with tungsten as absorber and silicon sensors. Each silicon layer composed of 12 tails with 256 pads. In order to have a calorimeter with small Moliere radius, the distance between two tungsten planes should be minimized.

During the two last years, an extensive study of different technologies allowed to reach detector layers of 0.7 mm thickness, equipped in order to read all pads. In summer 2016, a fully equipped prototype with a two layer tracker and a six layers calorimeter was tested at DESY.

The aim of the tracker, installed in front of the Luminator, is to distinguish electrons from photons (electron tagger). Shower development (longitudinal and radial) and tracker results will be presented.

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