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Tests of 3x3 undoped CsI matrix with an extremely low intensity electron beam

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We report measurements of energy resolution of a 3x3
array made of 30x30x200 mm^3 undoped CsI crystals. The
measurements have been performed using the electron beam of the linear
accelerator of the Yerevan Physics Institute (Yerevan, Armenia) in the energy range of 15-35 MeV. The accelerator operated at extremely low beam intensity (10-50 electrons per second). That operation mode have been achieved by decreasing photo cathode temperature and lowering applied high voltage. The measured energy resolution is σ_E/E=6.4% at E=35 MeV. This resolution is dominated by the energy leakage due to the small dimensions of the prototype.

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