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Particle beam imaging by measuring secondary electron bremsstrahlung using a CdTe imager

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Particle beam therapy is recognized as an excellent method for cancer treatment. On the other hand, due to their high dose localization, deviation of the irradiated area from the planned has a significant adverse effect on surrounding normal tissues. Non-invasive visualization of the therapeutic beam is required to optimize the treatment effect. The objective of this study is to establish a real-time beam imaging technique for measuring secondary electron bremsstrahlung by use of a CdTe imager. In the presentation, we will report on the analysis of beam image and on the accuracy of the estimated range variation derived from the analysis.

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