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How big is that diamond?

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Detectors using diamond for the active layer are becoming more popular in radiotherapy because they have a relatively flat energy response and can be small. Recently published modelling of a new solid-state diamond detector (PTW model 60019) suggests that only a region of diameter 0.6 mm responds to radiation. The manufacturer's specifications indicate that the active area is a disk of diameter 2.2 mm. We measured the active area by collimating a synchrotron beam of average energy 95 keV to spatial dimensions of 0.1 mm and scanning the diamond through the beam. The measured area had a diameter of 2.4 mm, in good agreement with the specifications when the beam size is considered. 2D plots of the diamond spatial response also confirm the shape of the active area.

Keywords or phrases (comma separated)

Diamond,scanning,radiotherapy,detector response

Are you a student?

No

Do you wish to take part in the Student Poster Slam?

No

Are you an ECR? (<5 yrs since PhD/Masters)

No

What is your gender?

Male

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