

A fully silicon based multi-proton Computed Tomography Device

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Proton Computed Tomography directly measures the proton stopping power in a patient to improve proton radiotherapy treatment plans. Conventionally the energy measurement in proton CT is performed via scintillators or range trackers which are limited to at most a few protons per readout cycle. We present here a proton CT device which utilises silicon strip trackers oriented at non orthogonal angles to improve rate capabilities coupled with a CMOS MAPS which integrated the energy deposited by multiple protons per pixel. We will describe the devices used, the reconstruction method for achieving a proton CT, and present proof of principle results obtained using the University of Birmingham MC40 cyclotron.

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Primary authors: COTTERILL, John Vincent (University of Birmingham (GB)); WINTER, Alasdair (University of Birmingham (GB)); PRICE, Tony (University of Birmingham (GB)); ALLPORT, Philip Patrick (University of Birmingham (UK)); GREEN, Stuart (University Hospital Birmingham); ALLINSON, Nigel (U); ESPOSITO, Michela; WALTHAM, Chris; Dr MANGER, Sam (University of Birmingham); KENDRICK, James (University of Birmingham (GB))

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