

Abstract Submitted
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Multi-Active Catheters For Real Time Dose Distribution Measurements In Prostate Brachytherapy Treatments CARLOS VELASCO, Hampton University, FOR CAMI COLLABORATION — We have performed real time 3D dose distribution measurements of high dose rate brachytherapy sources. These data demonstrate the possibility of in-vivo dosimetry monitoring of the dose rate while treating patients with particle radiation therapy. The prototype used for these experiments is made out of 16 scintillating fibers, 30 cm long and with a 1 mm² transverse cross section. Each fiber was coupled to a 16 channel Hamamatsu photomultiplier tube for photon to current conversion. Millimeter accuracy in position was attained with sub-seconds timing scale. No correction was done from Cherenkov radiation background. The (over)estimated systematic uncertainty is 10% and includes electronic and computer dead times, channel-to-channel efficiency, and signal attenuation. We will discuss the impact of such device to clinical prostate cancer treatments and treatment planning softwares.

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