AbstractID: 9768 Title: The Real-Time Dose Measurement Scintillating Fiber Array for Intravasular Brachytherapy Procedures

The possibility of inadequate margin or non-uniform distribution of radiation emitted from commercially-available beta sources (32P or 90Sr/90Y) has been considered as a cause of recurrence of stenosys after Intravascular Brachytherapy (IVBT) treatments. A newly developed detector system which provides a real-time spatial radiation dose measurement for IVBT will be presented. The system is composed of an array of 3x3 mm2 and 1x1 mm2 scintillating fibers optically coupled to photo-multiplier tubes. A CAMAC data acquisition system allows data collection. Histogramming and data analysis is performed using LabView. Measurments on a phantom patient will be presented and discussed, as well as comparison with a dedicated Geant4 Monte Carlo simulation