

Abstract Submitted
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An Active Mammosite For Breast Brachytherapy THOMAS CUDJOE, Hampton University, FOR CAMI COLLABORATION — Brachytherapy is an advanced cancer treatment that uses radioactive sources inside or in close proximity to cancerous tumors, thus minimizing exposure to neighboring healthy cells. This radiation oncology treatment unlike many others is localized and precise. The latest involvement of the Brachytherapy research group of the medical physics program at Hampton University is in the development of a scintillator fiber based detector for the breast cancer specific Mammosite (balloon device) from Cytac Inc. Radioactive sources are inserted into a small plastic catheter (shaft) and pushed at the end of the tube. At that location, a water filled balloon surrounds the source and allow uniform gamma emission into cancer tumors. There is presently no capability for this device to provide measurements of the location of the source, as well as the radiation emitted from the source. Recent data were acquired to evaluate the possibility of measuring the dose distribution during breast Brachytherapy cancer treatments with this device. A high activity ^{192}Ir radioactive source and a 0.5 and 1 mm² scintillating fibers were used. Results will be presented and discussed.

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