

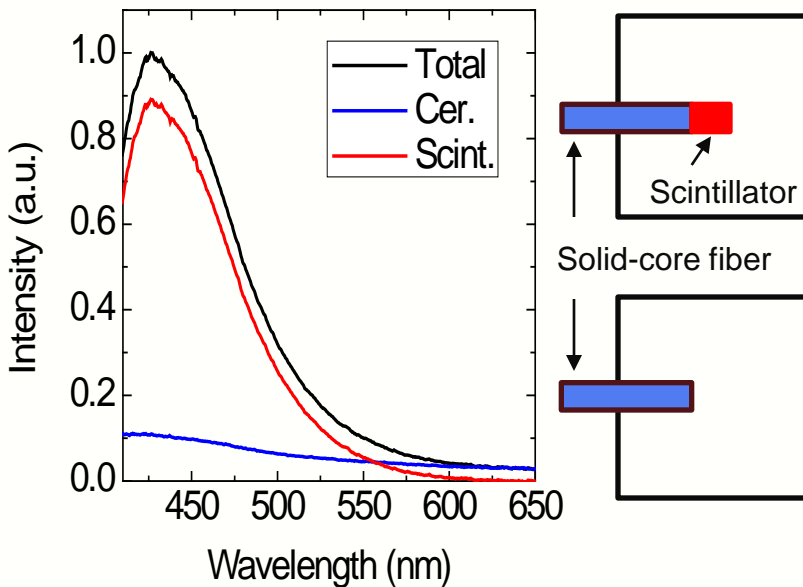
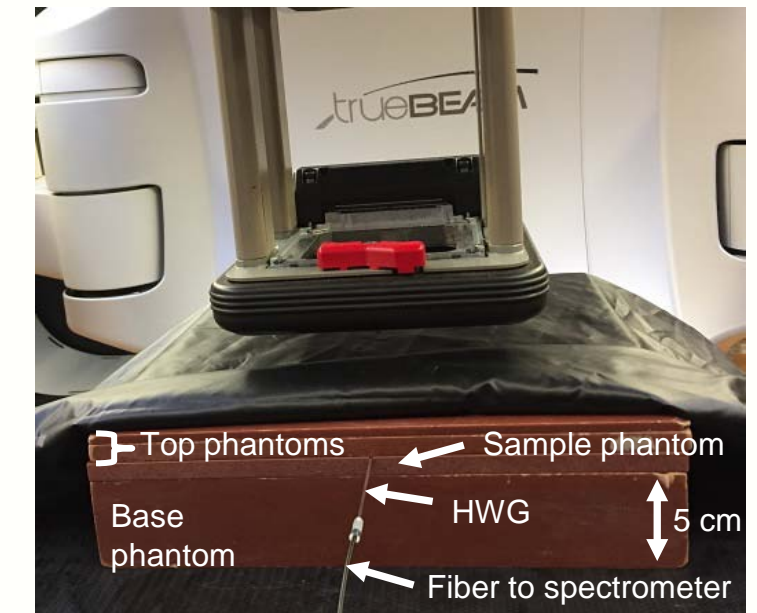
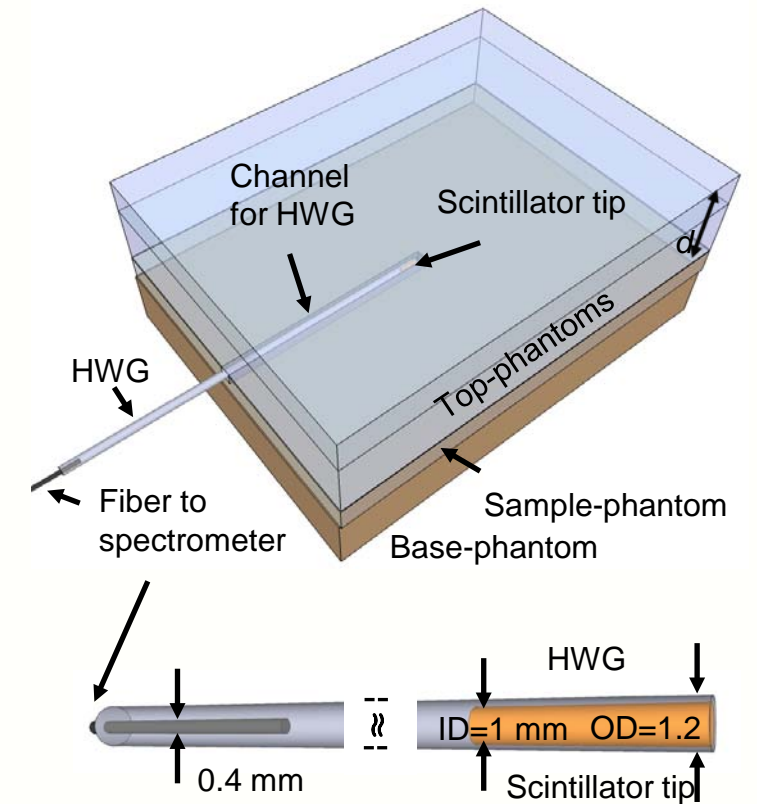
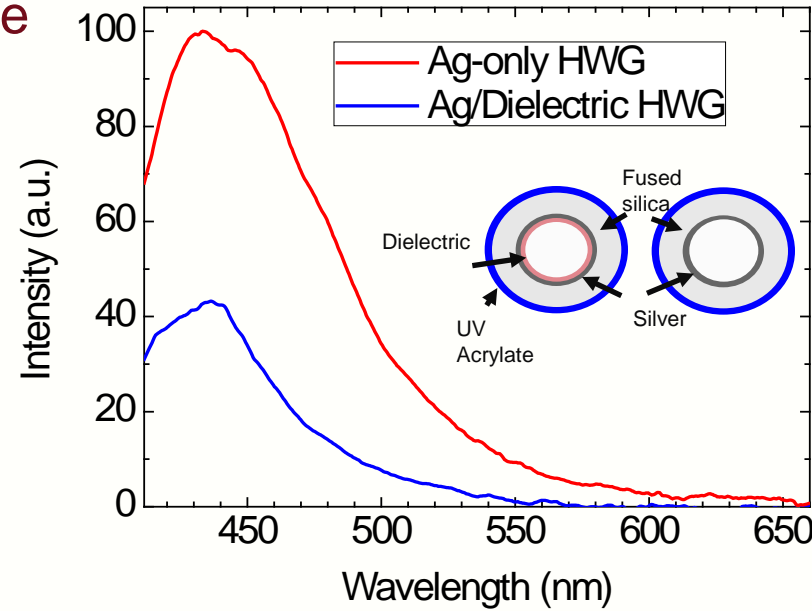
# Abstract Title: Fiber Optic Dosimeters Based On Silver-Only Coated Hollow Waveguides for Radiation Therapy Dosimetry

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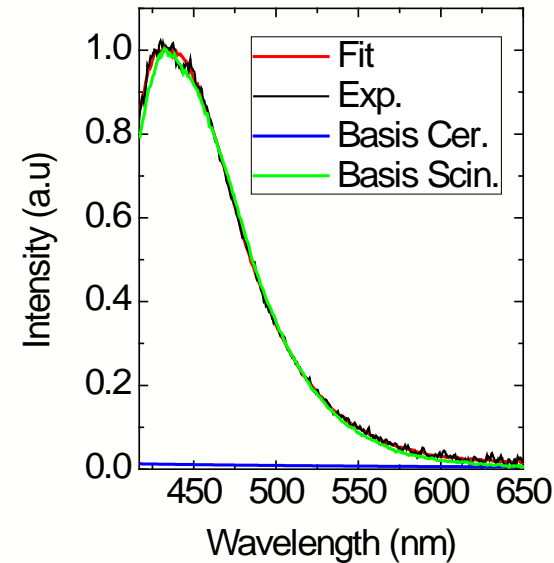
Session Title: Radiation Dosimetry and Quality Assurance

Date and Time: 08/02/2018, 11:20 AM

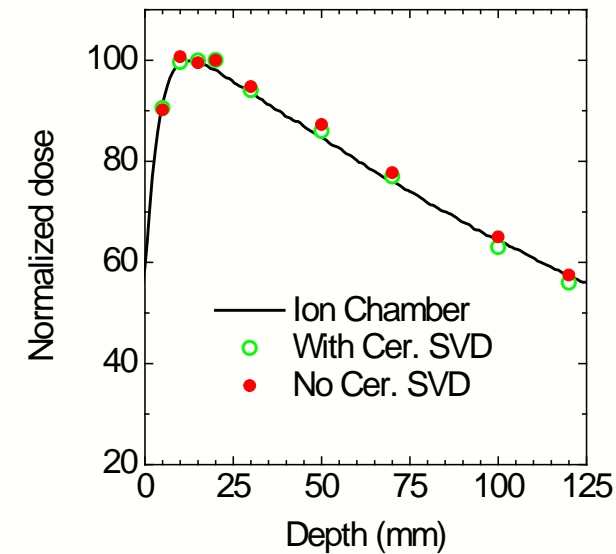
In order to enhance the scintillation signal transmission while minimizing the problematic effect of Čerenkov radiation contamination, we designed a fiber optic dosimeter probe using a silver-only coated hollow waveguide (HWG). Compared with a silver/dielectric-coated HWG fiber dosimeter design, higher signal transmission is achieved by using a silver-only HWG. This increase in the optical throughput would specifically be more helpful for low SNR scintillation detection scenarios.



Čerenkov radiation contamination is a significant issue in fiber optic dosimetry using solid core fibers.



Čerenkov radiation is minimized in hollow core waveguides.



PDD measured by using the HWG with and without correction for Čerenkov radiation shows similar result.