Optical Dosimeter

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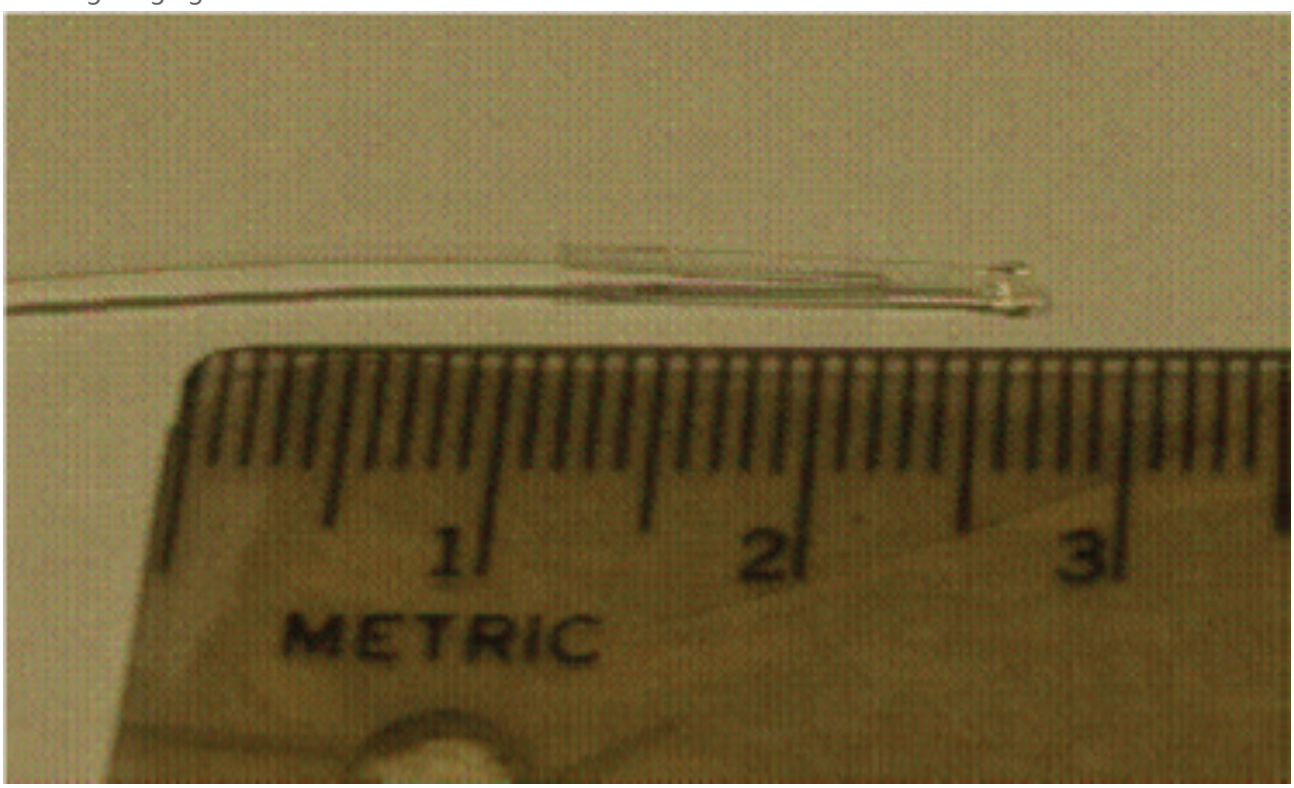
Technology description

Disposable radiochromic optical fiber dosimeter probe
The real-time radiochromic dosimeter is an ultra-thin fiber-optic dosimetric point probe that can be implanted in a minimally-invasive way directly into tumors or peripheral tissue, or positioned on the skin to monitor and verify applied therapeutic dose in real-time. Specific applications include the various forms of HDR (high-dose rate) brachytherapy (ie. prostate, gyne, post-lumpectomy) and Intra-Operative.

Unique advantages of this dosimeter are its sub-millimeter size, true real-time non-destructive read out capabilities, water equivalent composition and magnetic resonance (MR)-compatibility. It is a passive dosimeter, resulting in improved overall signal to noise (SNR) achieved by adjusting the amount of interrogating light.



Publications

A. Rink et al, Med. Phys. 32 (2005) 1140-1155.
A. Rink, I.A. Vitkin, D.A. Jaffray, Med. Phys. 32 (2005) 2510-2516.
A. Rink, I.A. Vitkin, D.A. Jaffray, Med. Phys. 34 (2007) 458-463.

Application area

Radiotherapy quality assurance
Dosimetery can be implemented at key points (e.g. tumor, other ROIs)duringtreatment

Institution

University Health Network

Inventors

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com