

## Soutěž - Plastic scintillator based 2D detector for quality assurance in photon radiotherapy – preliminary results

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A proof-of-concept study of a new detector based on a thin plastic scintillator monitored by a CCD camera designed for monitoring and characterization of Linac photon beams is presented. The response of the detector is compared to radiochromic film dosimetry using 6 MV and 18 MV radiotherapeutic beams. We have observed: (i) all instruments survive secondary radiation fields during Linac operation, (ii) it is possible to process measured data using statistical techniques and (iii) processed data from the CCD camera qualitatively correspond to film dosimetry results. A statistical technique based on selection of minimal value provides the clearest results. Quantitatively, CCD and film results can only be compared as 6 MV to 18 MV response rates. We have observed that the rates from the CCD data are systematically higher than the rates from film dosimetry. Differences between these two rates are not very high, namely 1.9-2.4 times the combined standard deviation. The work was supported from European Regional Development Fund-Project “Center of Advanced Applied Sciences” No. CZ.02.1.01/0.0/0.0/16-019/0000778.

### **Přihlásit do soutěže**

Přihlašuji příspěvek do soutěže o nejlepší přednášku

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**Zařazení sekce:** Metrologie, měření, přístrojová technika a její aplikace

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