ID příspěvku: **94** Typ: **Poster**

Spectrophotometric evaluation of turbidity of N-vinylpyrrolidone-containing 3D polymer gel dosimeters

středa 8. listopadu 2023 15:05 (5 minut)

Polymer gel dosimeters, due to ability of performing 3D spatial resolution, have a wide range of applications in radiotherapy. In this research we have investigated on how individual parameters, related to production, irradiation and readings, influence on gel dosimeters. Multiple series of gels, with small modifications, were fabricated and irradiated for various amount of time in order to achieve various levels of polymerisation. Level of polymerisation, depending on absorbed dose, leads to an increased optical turbidity. Optical measurements of turbidity were performed on Shimadzu spectrophotometer in the 450-550nm wavelength interval. It was shown that measured turbidity values can be strongly affected by parameters such as workflow, volume of gel, irradiation-reading time interval, spectrophotometer performance and presence of oxygen within the polymer gel. Investigating on these parameters and oxygen scavengers was first necessary step in order to minimize potential errors and eliminate fabrication mistakes before utilization in practise.

Keywords: Polymer gel dosimeter, turbidity, parameters affecting evaluation, spectrophotometry

Přihlásit do soutěže

Přihlašuji příspěvek do soutěže o nejlepší přednášku

Hlavní autor: DESPOTOVIĆ, Marija (FJFI ČVUT)

Spoluautor: PILAŘOVÁ, Kateřina (FJFI, ČVUT)

Přednášející: DESPOTOVIĆ, Marija (FJFI ČVUT)

Zařazení sekce: Prezentace firem a postery

Tematická klasifikace: Metrologie, měření, přístrojová technika a její aplikace