Contribution ID: **196** Type: **Poster**

Peculiarities of Electron Beam Propagation through Polymer Samples Manufactured by Layer-by-Layer Fusing Method with Different Printing Parameters

Wednesday, 26 September 2018 18:40 (1 hour)

In this work, we study the features of the passage of an electron beam through polymer samples manufactured using additive technologies with different printing parameters.

The technology of layer-by-layer fusing makes it possible to produce samples with different filling factor by plastic in the volume of the product [1]. For the experimental studies, ten polymer test samples with different filling factors from 10 to 100% have been made. Peculiarities of the electron beam interaction with these objects are revealed. Measurements were made for 6 MeV small-sized electron beam of betatron MIB-6E [2]. Pre-calibrated polymer films of GafChromic EBT3 [3] were used as a detector.

In the work the profiles of electron beams after passing through the polymer test samples are measured.

This work is supported by the grant of Russian Science Foundation (18-79-10052).

References

1. A. K. France Make: 3D printing: The essential guide to 3D printers. –Maker Media, Inc., 2013. –222 p.
2. V. A. Novikov et al., AIP Conf. Proc. 1882 (2017) 020054.
3. P. Sipilä et al., J. Appl. Clin. Med. Phys. 17(1) (2016) 360-373.

Primary author: Mr STUCHEBROV, Sergei (Tomsk Polytechnic University)

Co-authors: Mr KRASNYKH, A. (Tomsk Polytechnic University); Ms MILOICHIKOVA, Irina (Tomsk Polytechnic University); Mr CHEREPENNIKOV, Yury (Tomsk Polytechnic University)

Presenter: Mr STUCHEBROV, Sergei (Tomsk Polytechnic University)

Session Classification: PS2 - Poster session