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Dose measurements in the treatment room for proton therapy of Medico-technical complex, JINR

Tuesday 7 June 2016 11:40 (10 minutes)

Regular sessions on proton therapy of cancer and some other diseases are carried out at the Medical-Technical facility of the Laboratory of Nuclear Problems, JINR. The proton beam with the energy of 170 MeV was delivered to the treatment room. The ridge filter was used to modify the Bragg peak, a spread-out proton Bragg peak for this filter is 36 mm. 90% isodose. The absorbed dose in the irradiated phantom was 30 Gy. The value of absorbed dose was chosen for practical purposes, taking into consideration that the dose at the isocenter of arteriovenous malformations (AVM) in radiosurgery was 20-30 Gy-eq, depending on the volume of irradiated target. This dose is given to the patient in one or two radiotherapy sessions. The resulting ambient dose equivalent at a distance of 0.5 m. from the phantom was equal to 1.5 ± 0.3 mSv. The quality factor of the radiation at the measurement point was 3.5 ± 0.3. The obtained data play a significant role for consideration of presence of accompanying person in the treatment room that may be important for various medical or psychological reasons.

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Session Classification: Презентации участников