

Purpose: To investigate an IC Profiler for clinical proton dosimetry QA. **Methods and Materials:** An IC Profiler (model 1122) (Sun Nuclear Corporation, Melbourne, FL) consisting of four linear arrays (X, Y, and two diagonals) with 251 vented ion chambers was investigated. The vented ion chamber has 2.6 mm effective collection width and 0.9 g/cm^2 inherent buildup. It was irradiated with a proton beam with 16 cm penetration depth at a depth of 11 cm corresponding to the middle of a 10 cm spread-out Bragg peak (SOBP) for a 10-cm diameter circular field using uniform scanning proton beam delivery system. Lateral dose profiles measured with ICP was compared with results obtained from a Markus chamber (MC) positioned in water tank, a large multi-pad ionization chamber (MPIC) transverse detector, and a MatriXX detector (Scanditronix / Wellhofer). Field width (50%-50%), lateral penumbra (20%-80%), field flatness and symmetry were analyzed. **Results:** The measured field widths were 10.92 cm, 10.70 cm, 10.21 cm and 10.51 cm from ICP, MC, MPIC and, Matrixx detector, respectively. The measured lateral penumbras were 5.6 mm, 6.0 mm, 8.2 mm and 8.1 mm for ICP, MC, MPIC, and Matrixx, respectively. The flatness values obtained with ICP, MC, MPIC and Matrixx were 107.40%, 104.03%, 108.05%, and 104.55%. The symmetries obtained with ICP, MC, MPIC and Matrixx are 0.62%, 0.16%, 0.15%, and 0.12%, respectively. **Conclusions:** Results obtained from the IC Profiler are similar to those obtained from the other three detectors. From these investigations it can be concluded that the newly available IC PROFILER is a suitable device for quality assurance and dose verifications in proton therapy either in double scattering or scanned beam.