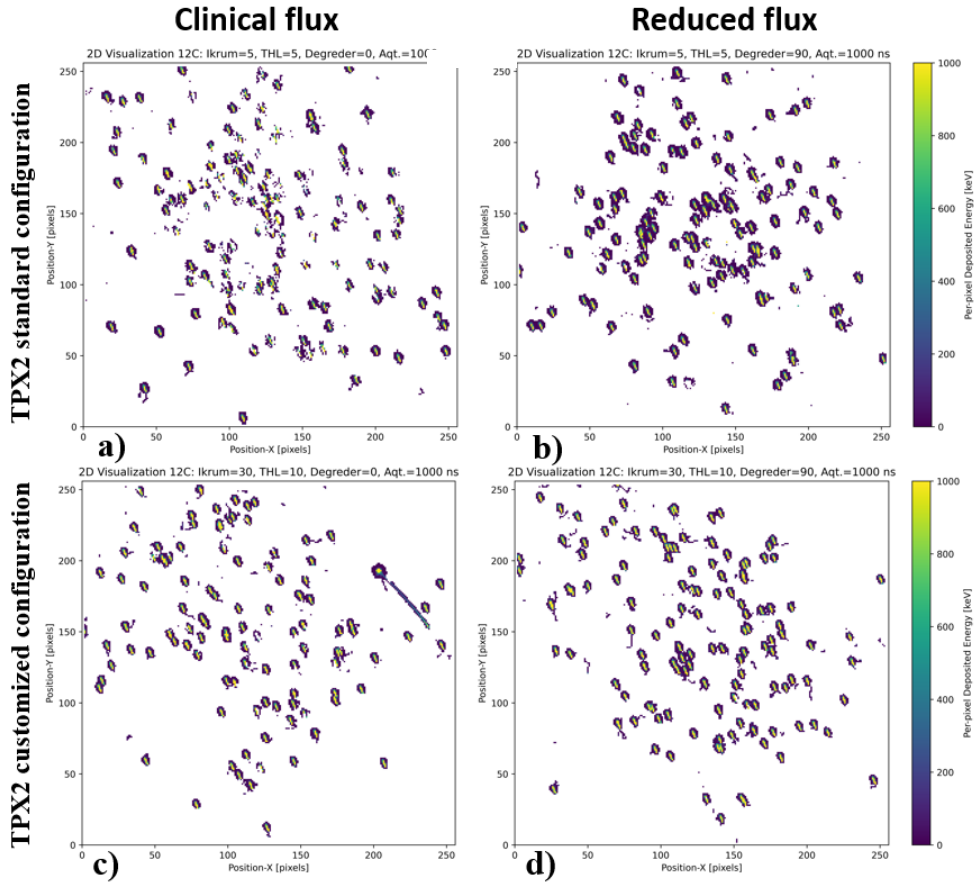
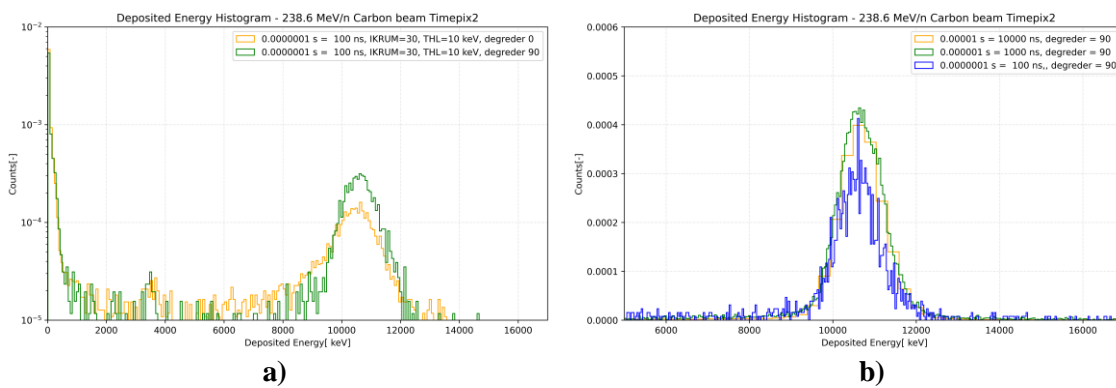


# Timepix2-radiation camera for single particle imaging in high count-rate particle therapy



**Figure 1.** Radiation field visualization in carbon beams using clinical fluxes and a degrader to reduce the flux for two configurations of TPX2 detector at the same acquisition time: a) Clinical flux and standard calibration with adaptive gain ON, b) Reduced flux with standard calibration, c) Clinical flux and customized calibration d) Lower flux by approximately 10% using a degrader set at 90 with customized calibration.



**Figure 2.** Deposited energy spectra in Carbon beam at a) clinical flux (degrader 0) and 10% lower flux (degrader 90) measured at 100 ns frame acquisition time. In b) various acquisition times with customized configuration were tested for lower flux, degrader 90. In both cases a customized DAC parameter were used. See figure 2c and 2d for track visualization corresponding to energy spectra.