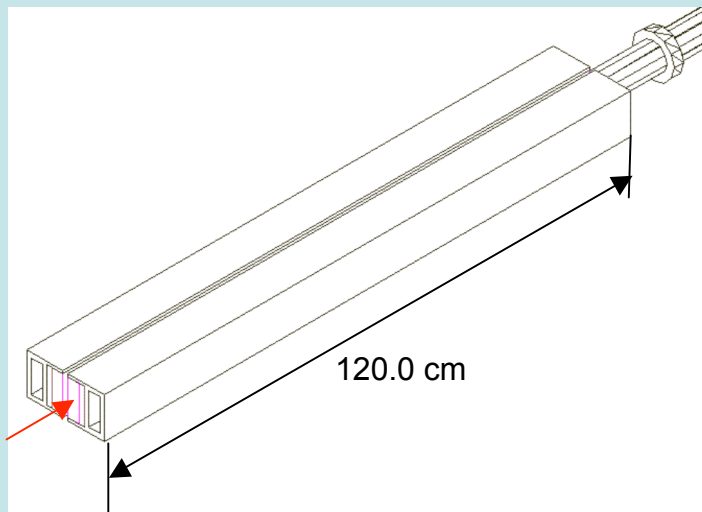
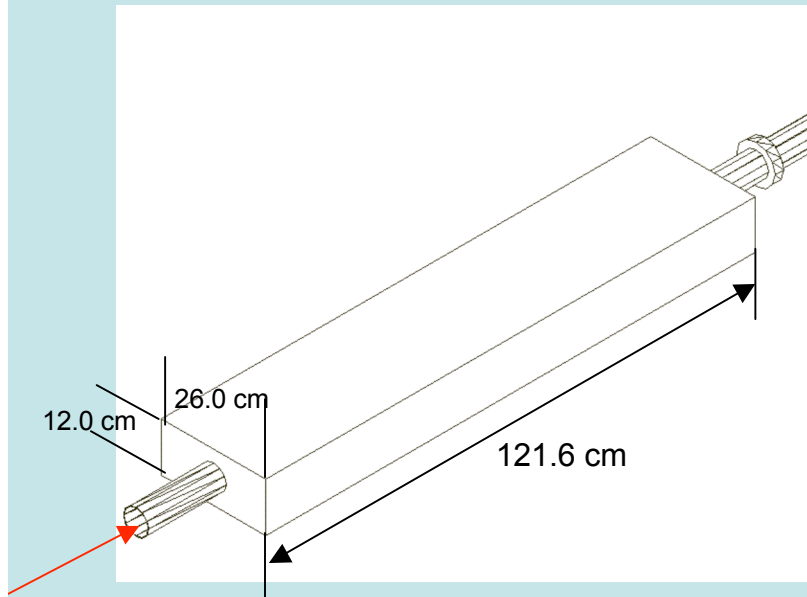
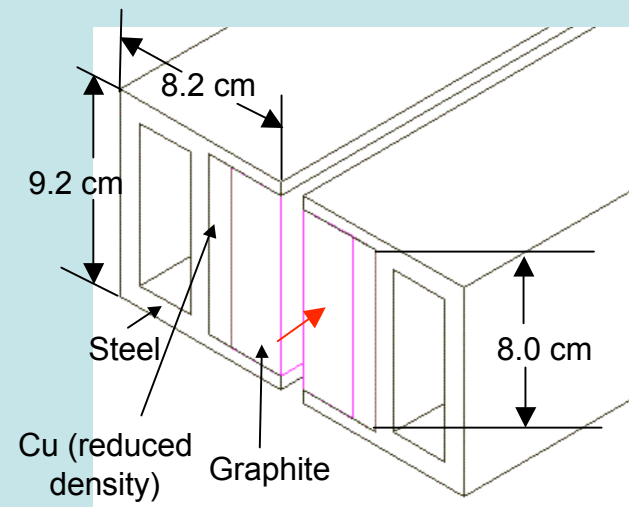
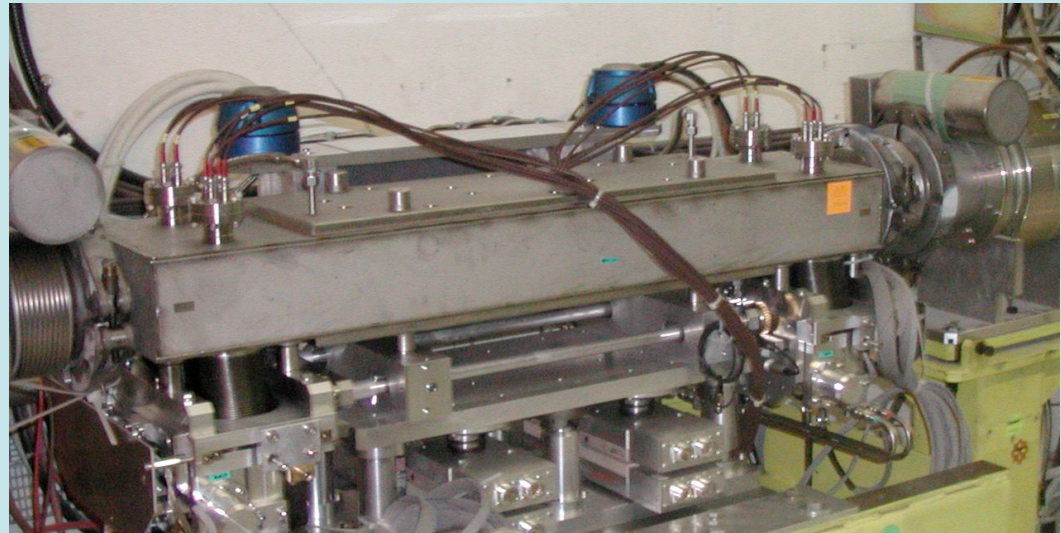


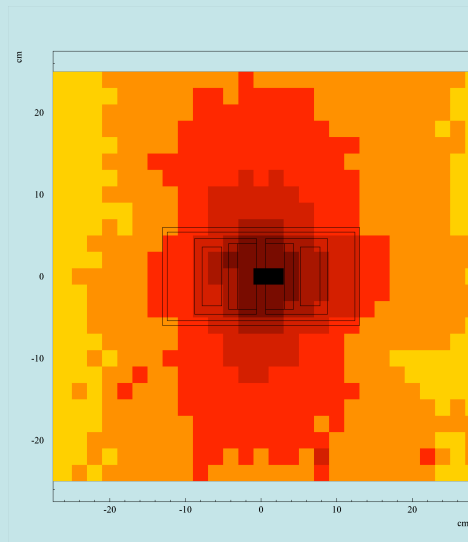
TCDI collimator



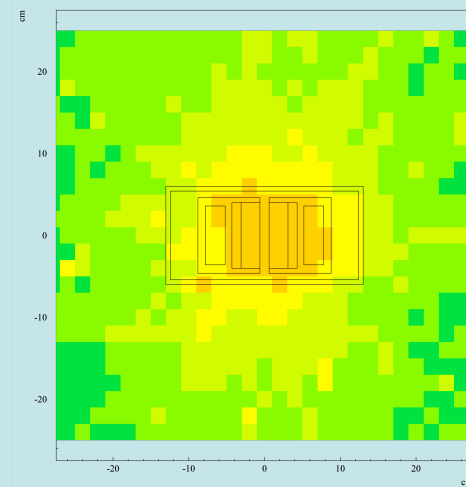
TT40 collimator



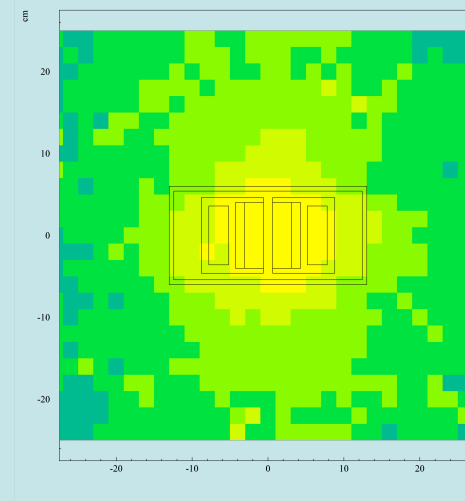
Remnant dose rate of collimator in mSv/h after $5E13$ protons after various cooling times



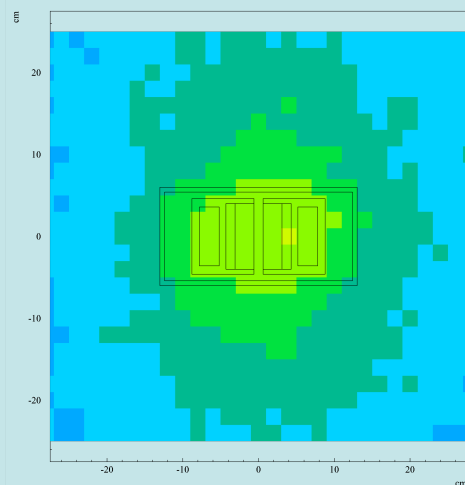
1h



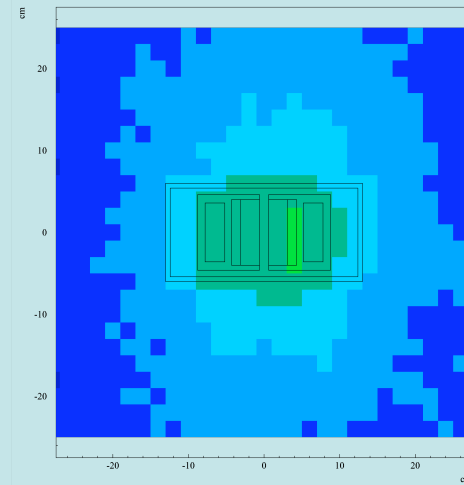
12 h



1d

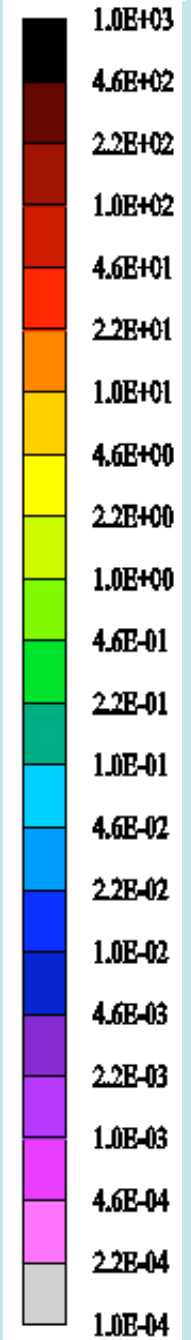


1w



1m

mSv/h



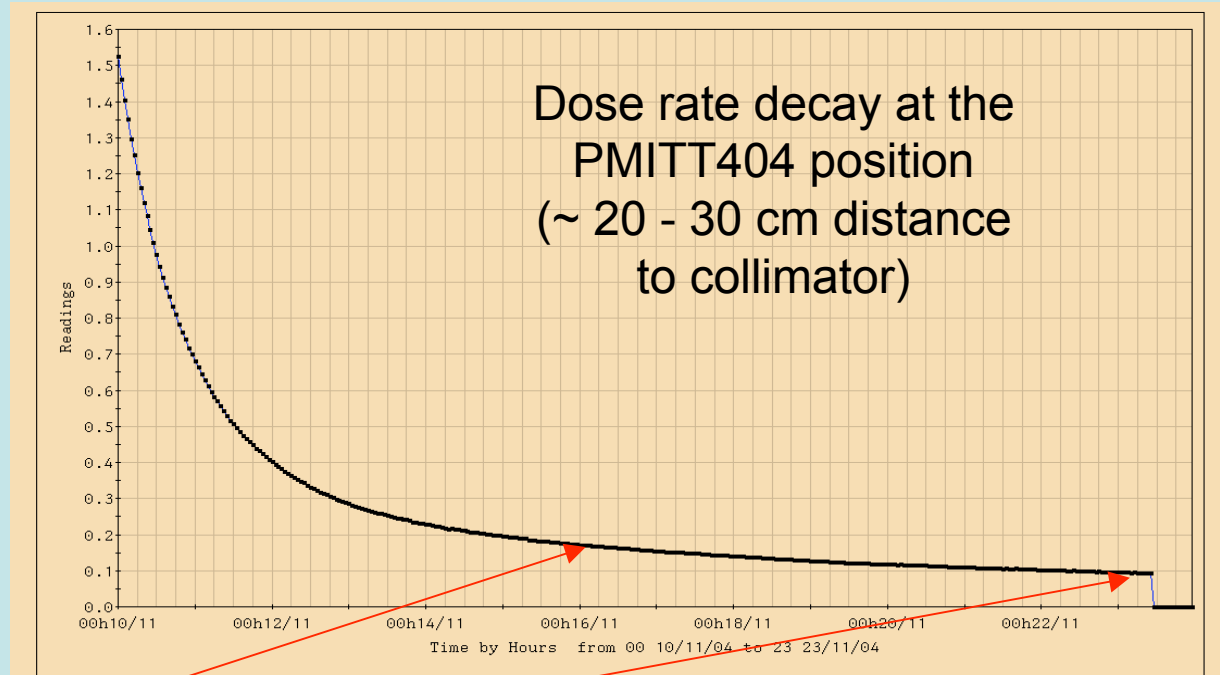
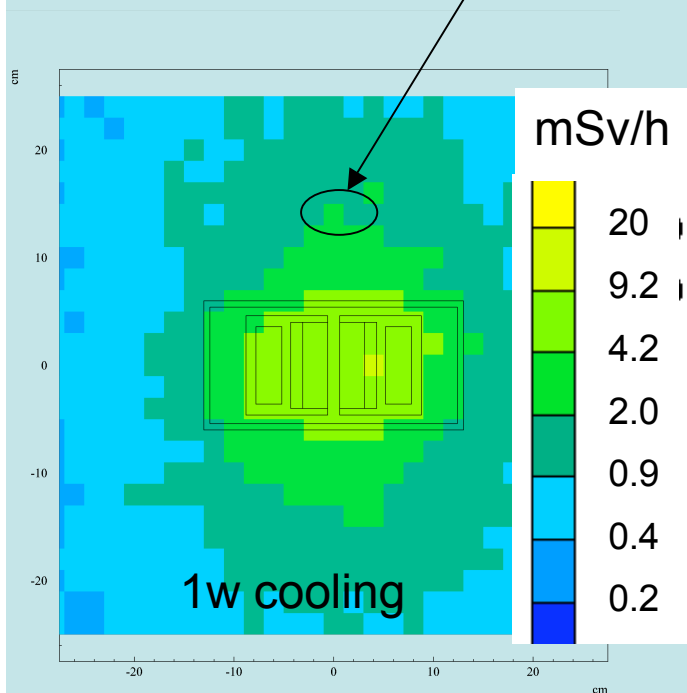
CERN-SC-2004-018-RP-TN: Remnant dose rates in the area of a TCDI collimator after 200 days of normal operation and after an accidental beam loss

Measurements at collimator on 23/11/2004 (14 days after beam impact)

Number of protons on collimator: $4.6E14$ protons

Measured dose rate on top at the middle of collimator (distance: ~ 10 cm): **0.95 mSv/h**

Simulated dose rate for 1 week cooling (scaled to $4.6E14$ protons): ~ 2.0 mSv/h



Dose ratio between 1 week and 2 weeks $0.17\text{mSv/h}/0.09\text{mSv/h} = 1.9$

Simulated dose rate rescaled to two weeks cooling: ~ 1.1 mSv/h