



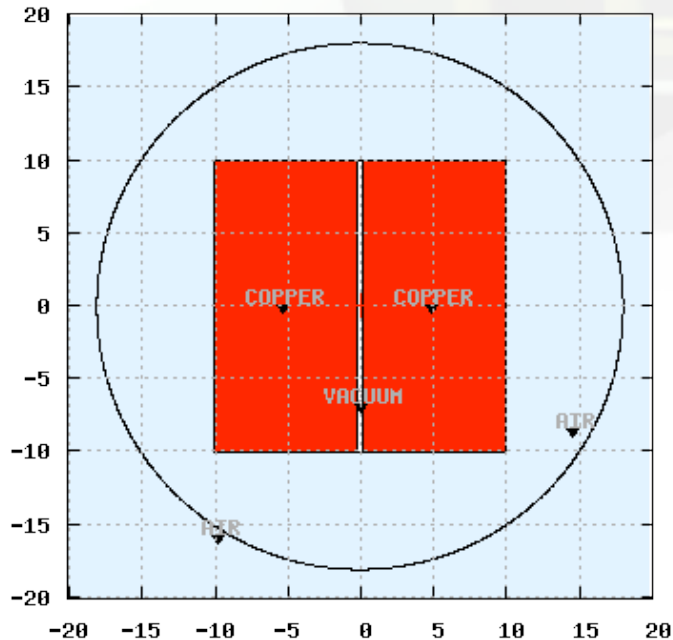
TCRYO: Preliminary FLUKA simulations

Collimator Working Group
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CERN 02.03.2009

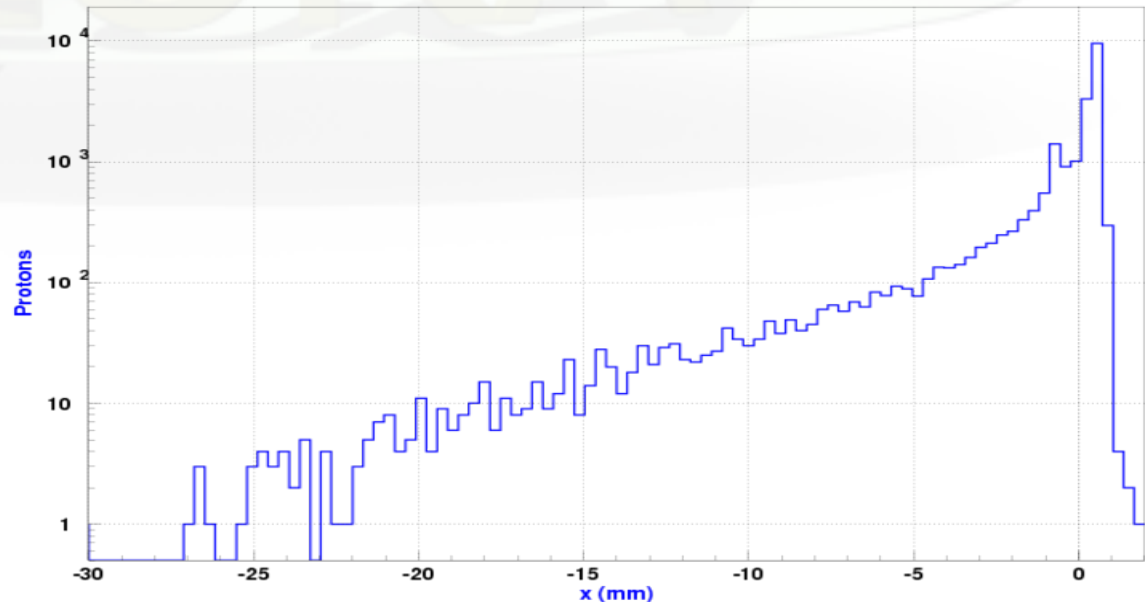
Setup

- Source term:
 - All single diffractive events on primary, secondary collimators that arrive to the location of the TCRYO.AR7.B1
- Geometry:
 - Complete IR7 geometry with the addition of two TCRYO collimators
 - ♦ TCRYO.AR7.B1 Gap: 1.6 mm
 - ♦ TCRYO.BR7.B1 Gap: 2.08 mm
 - Both TCRYO are horizontal with 1m long Copper jaws

TCryo Prototype

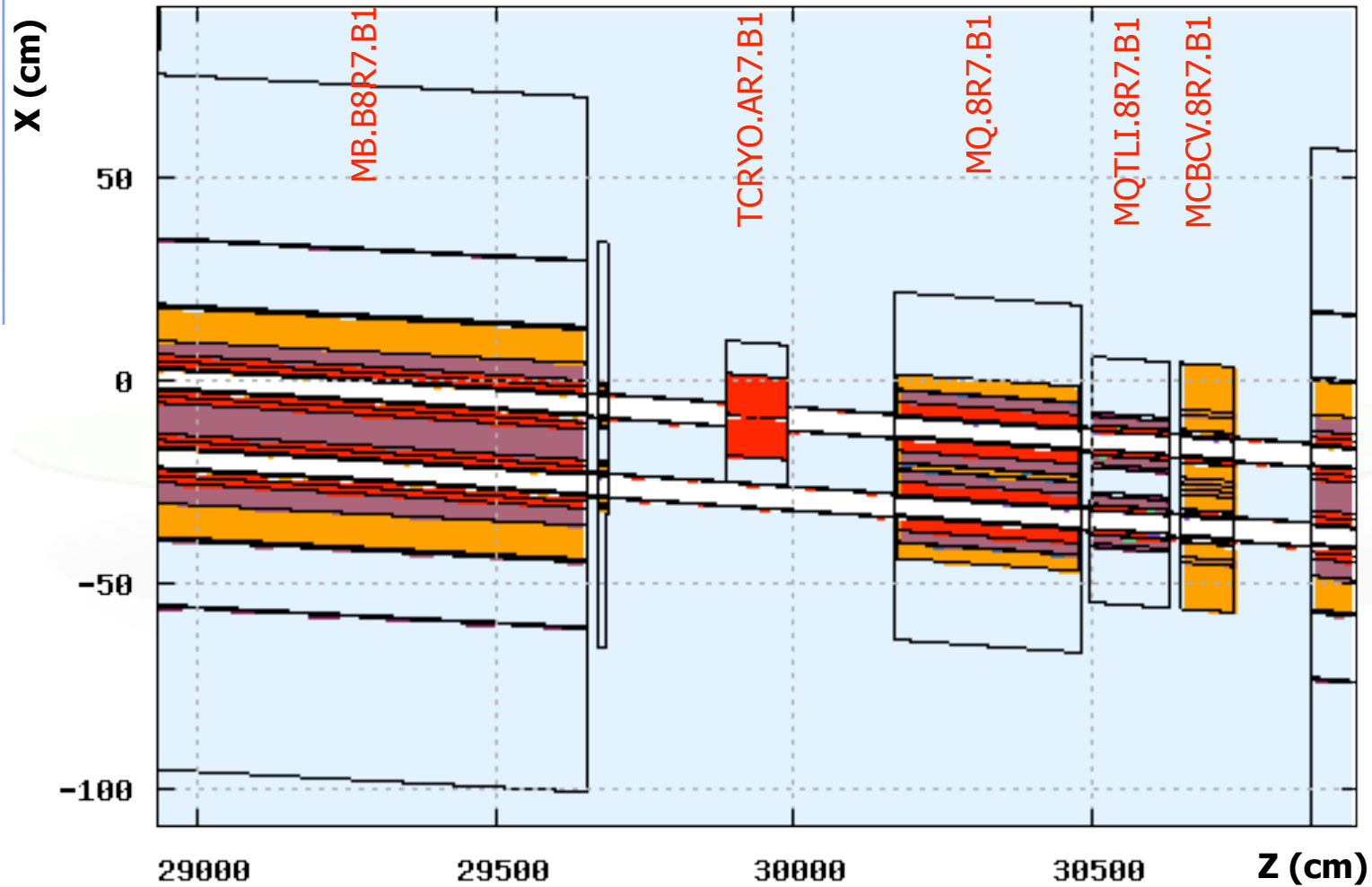


Single Diffractive TCRYOA X-distribution

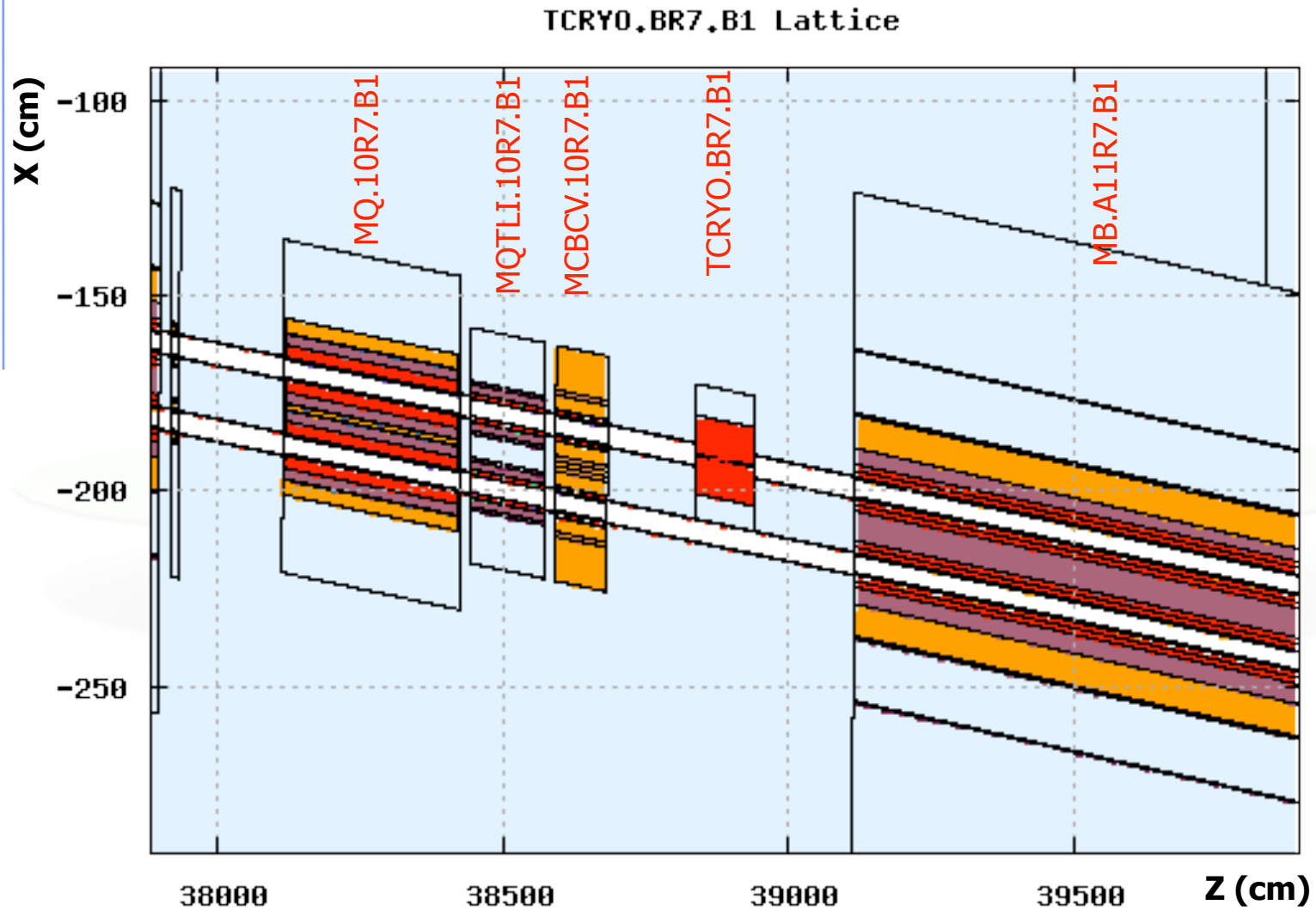


TCRYO.AR7.B1

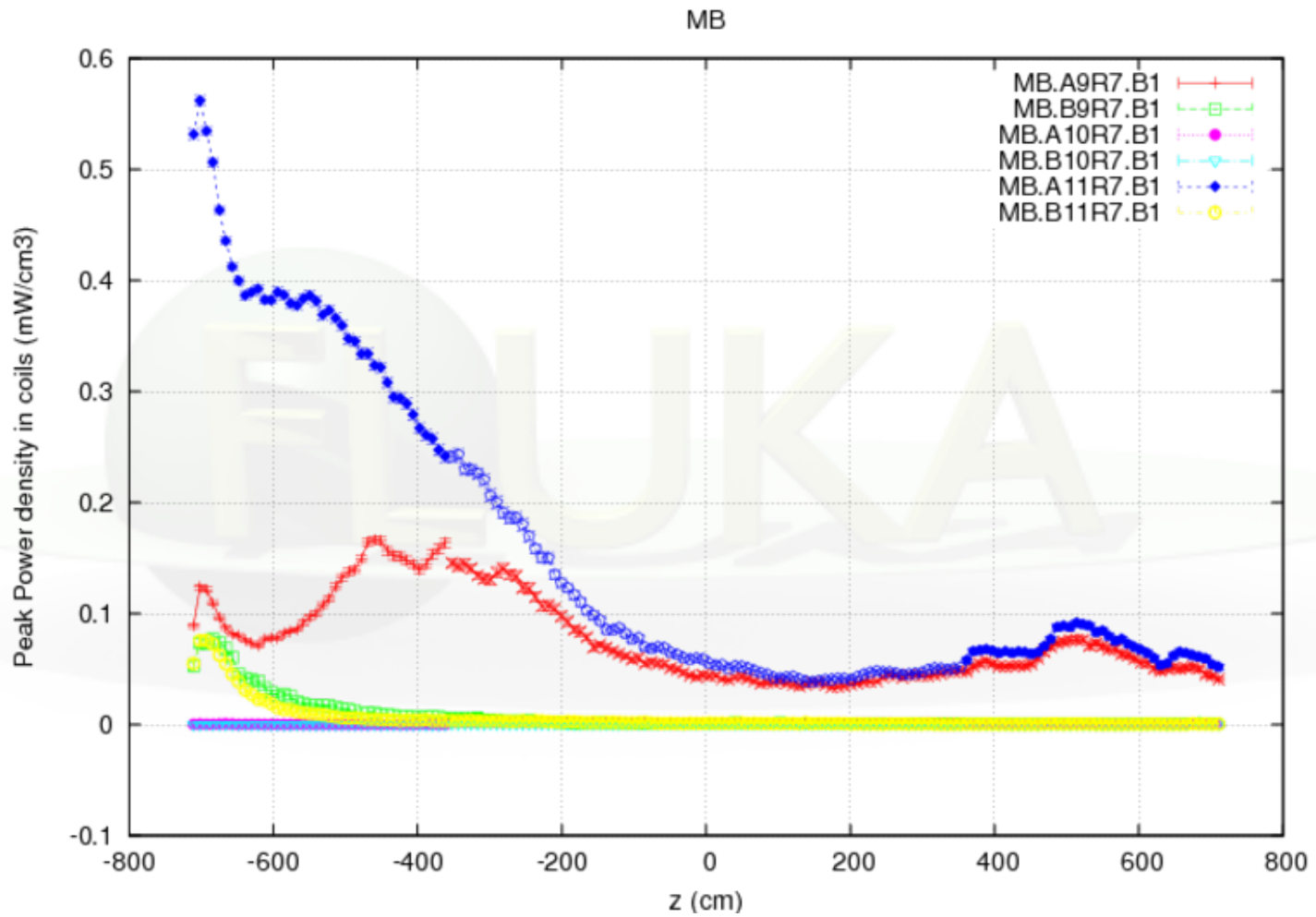
TCRYO.AR7.B1 Lattice



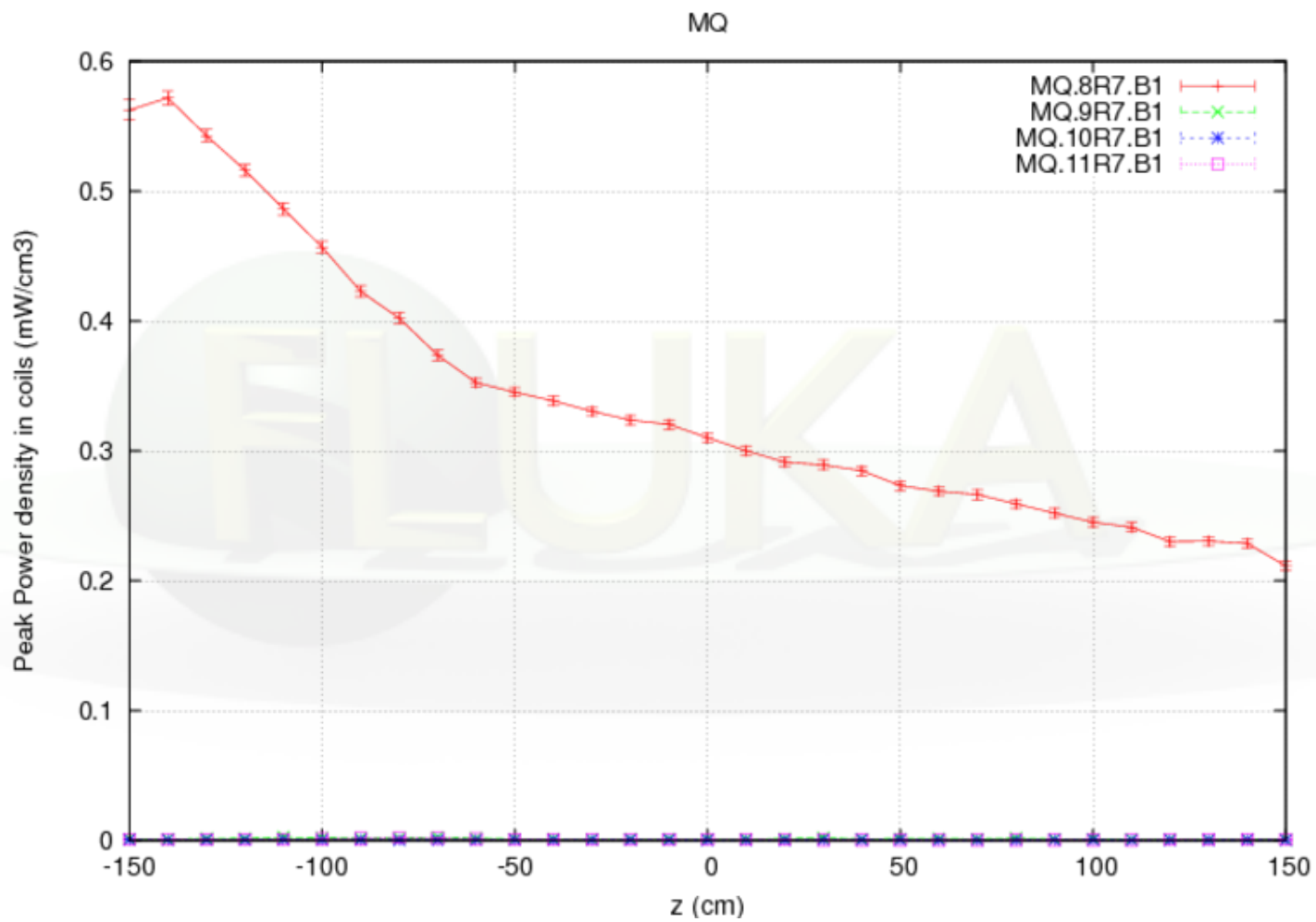
TCRYO.BR7.B1



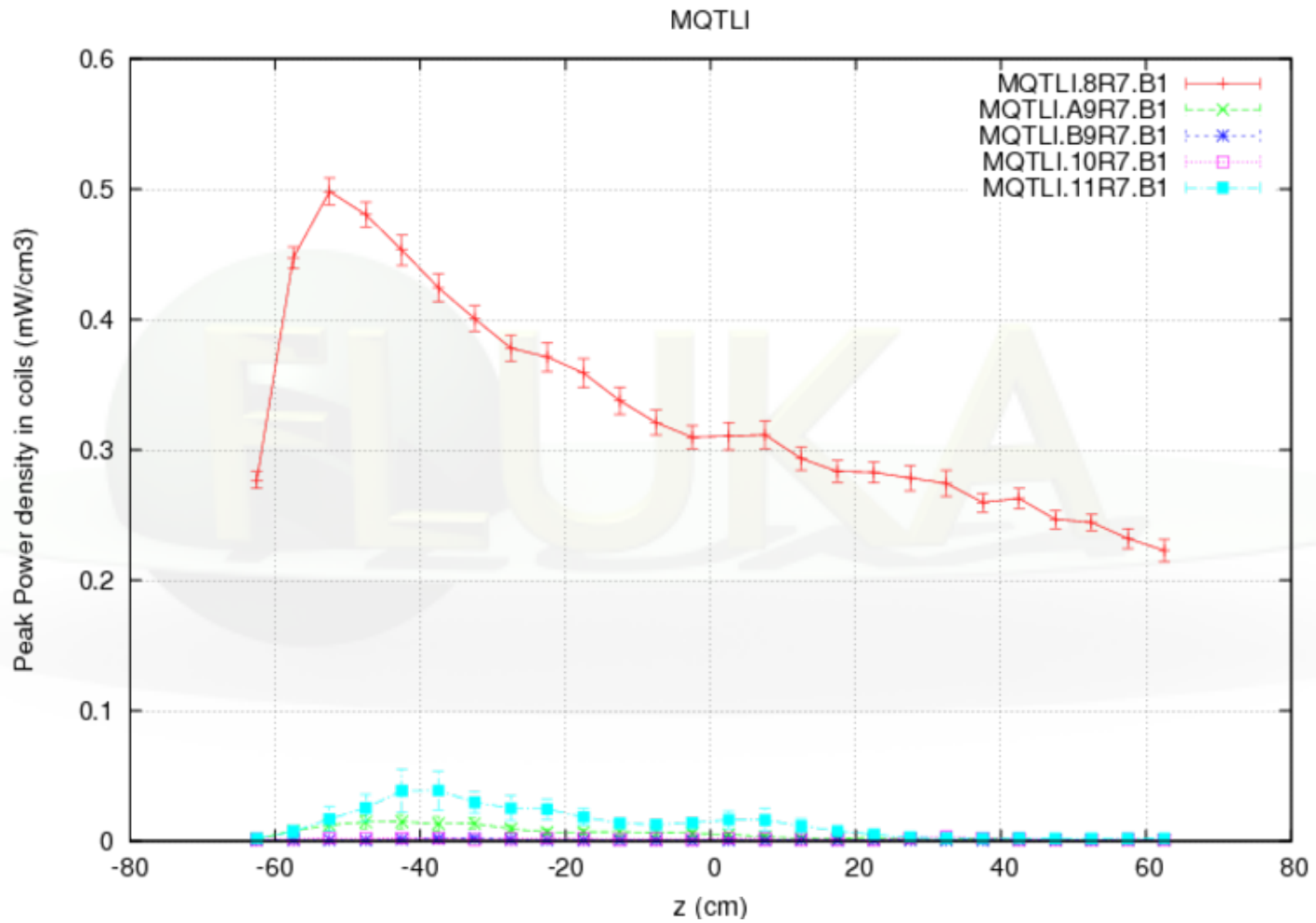
MB



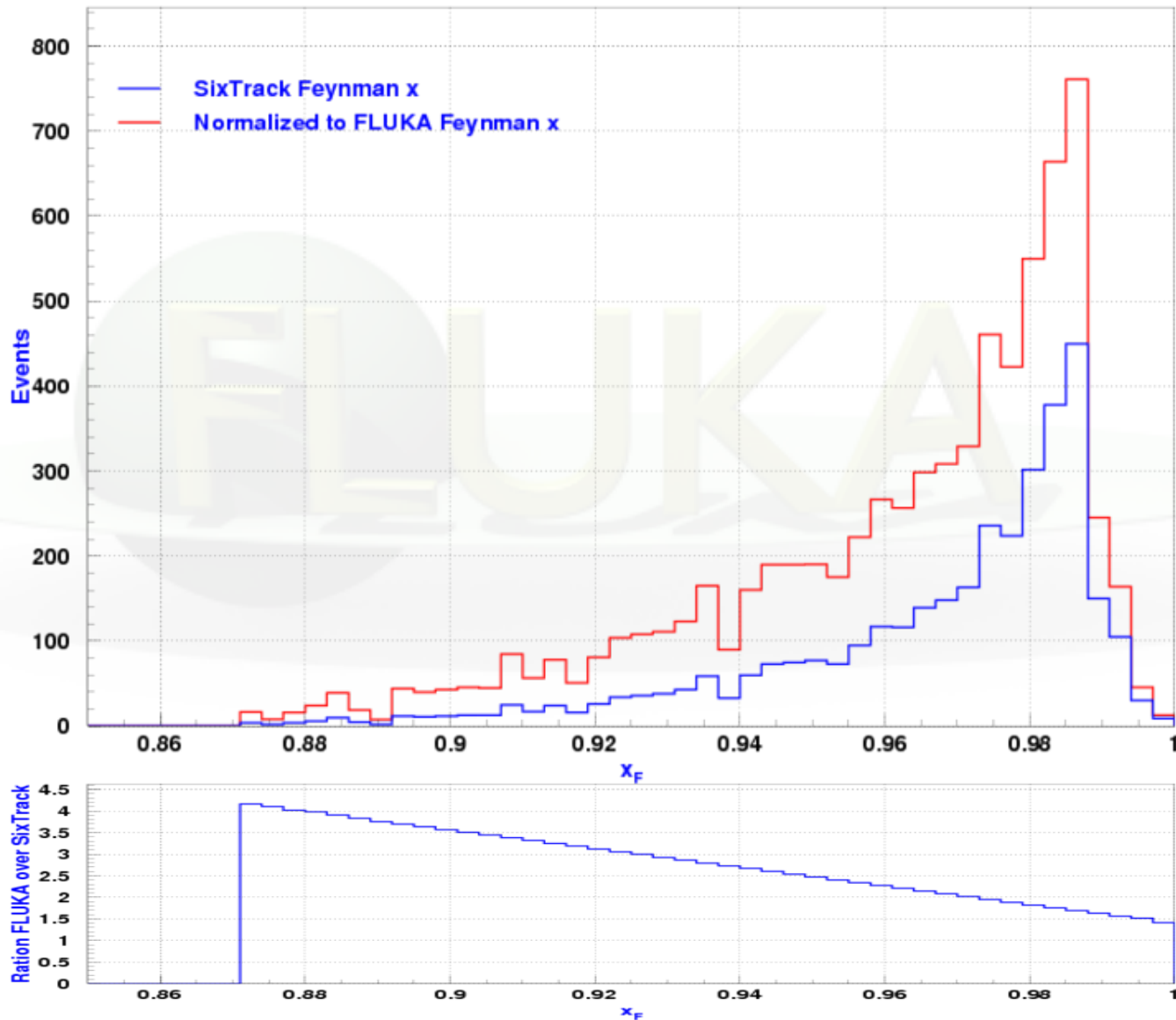
MQ



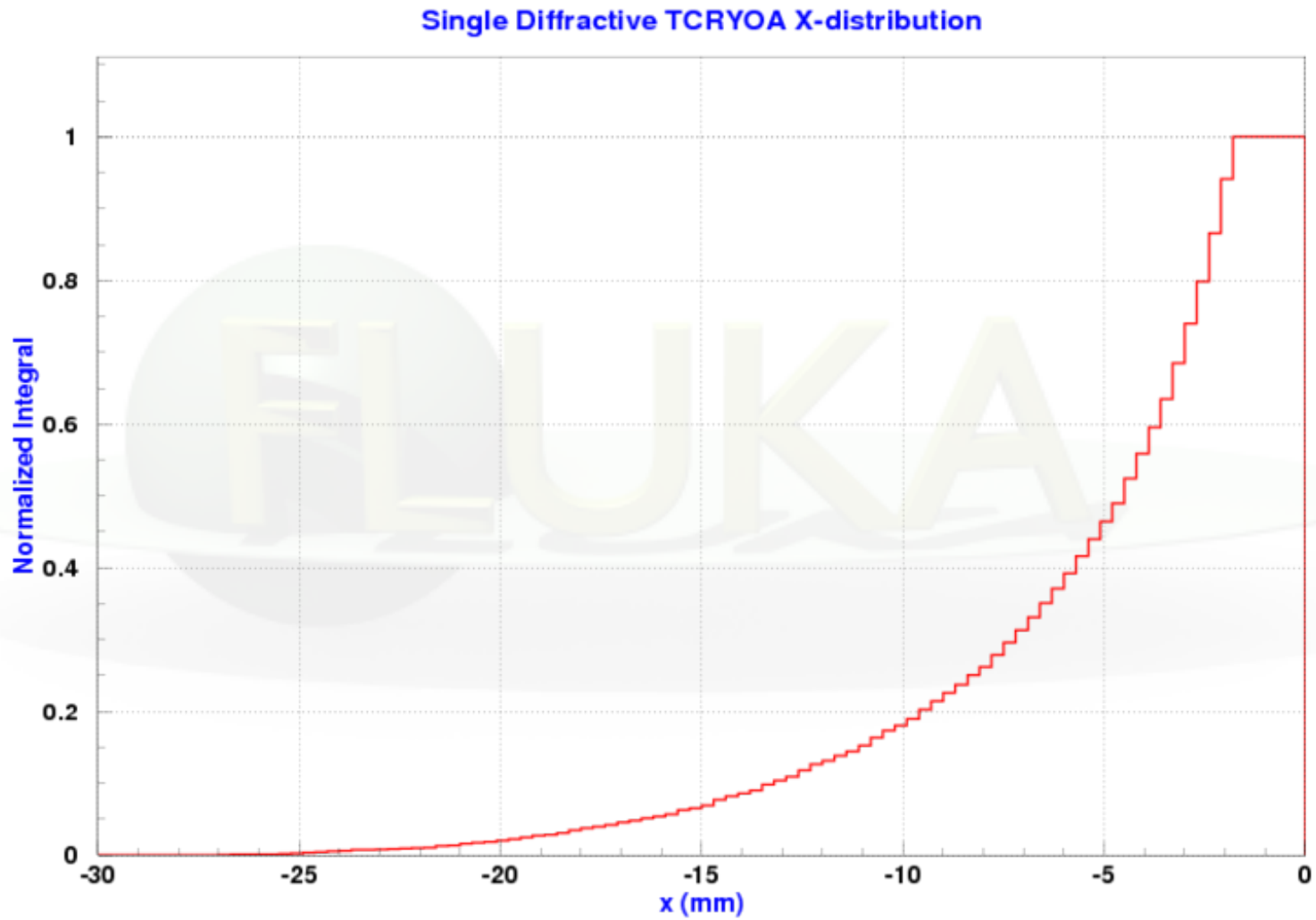
MQTLI



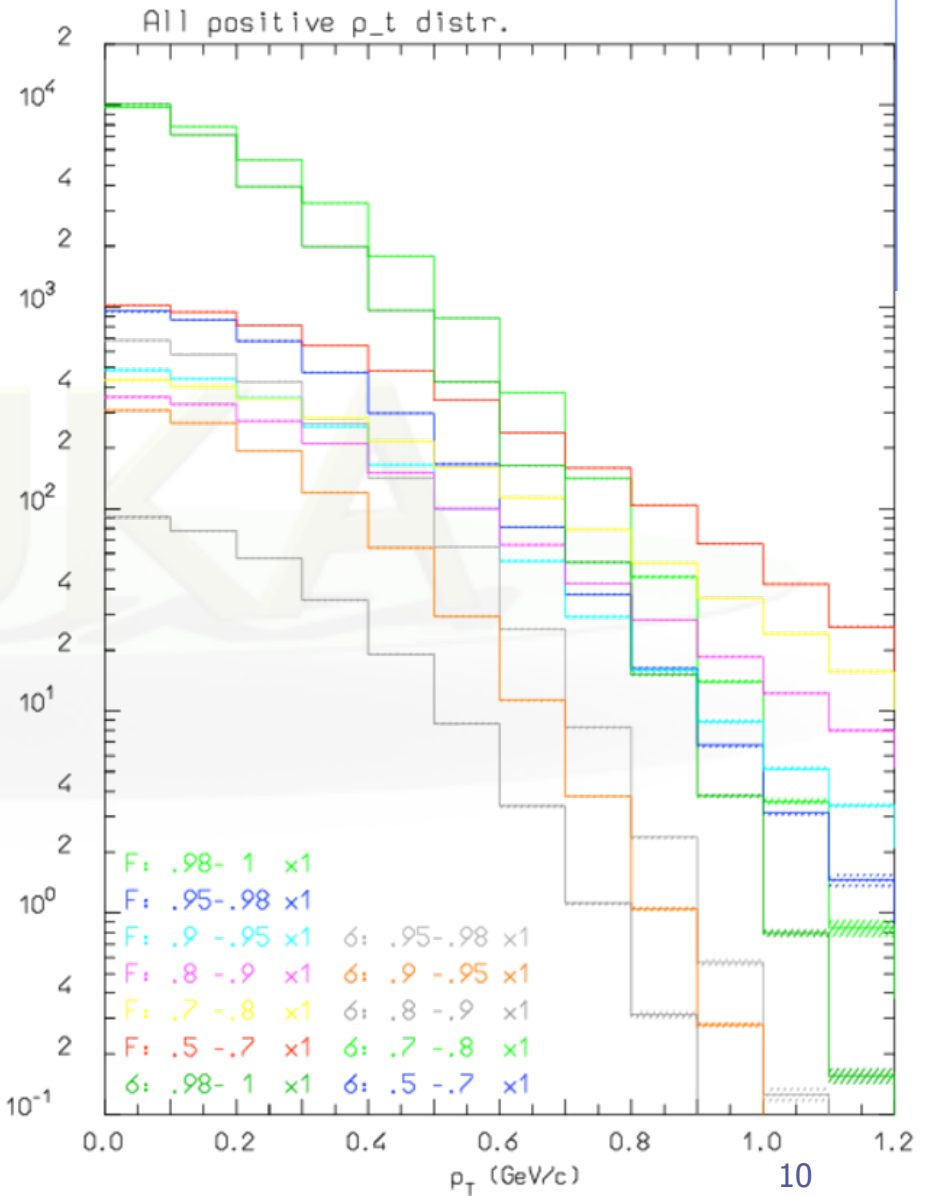
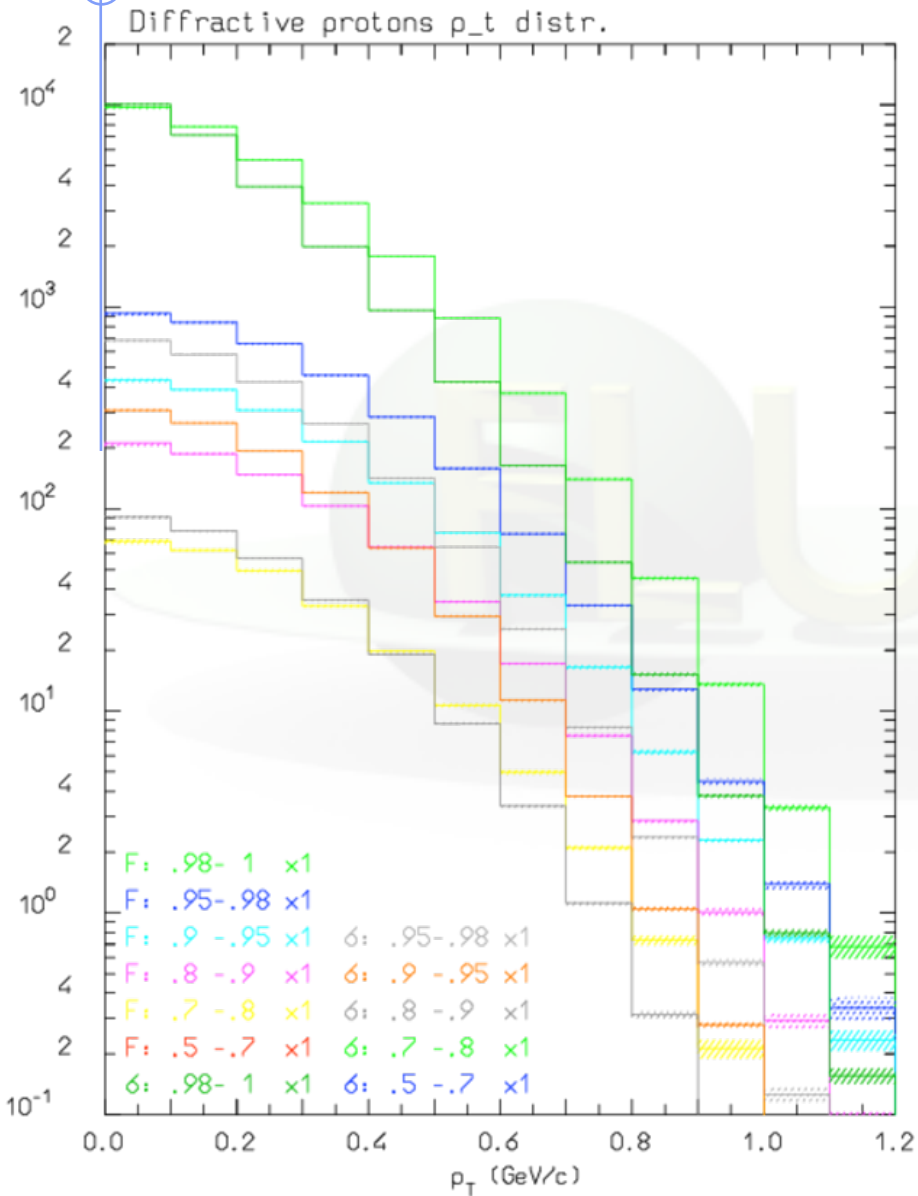
6Track vs Weighted by FLUKA



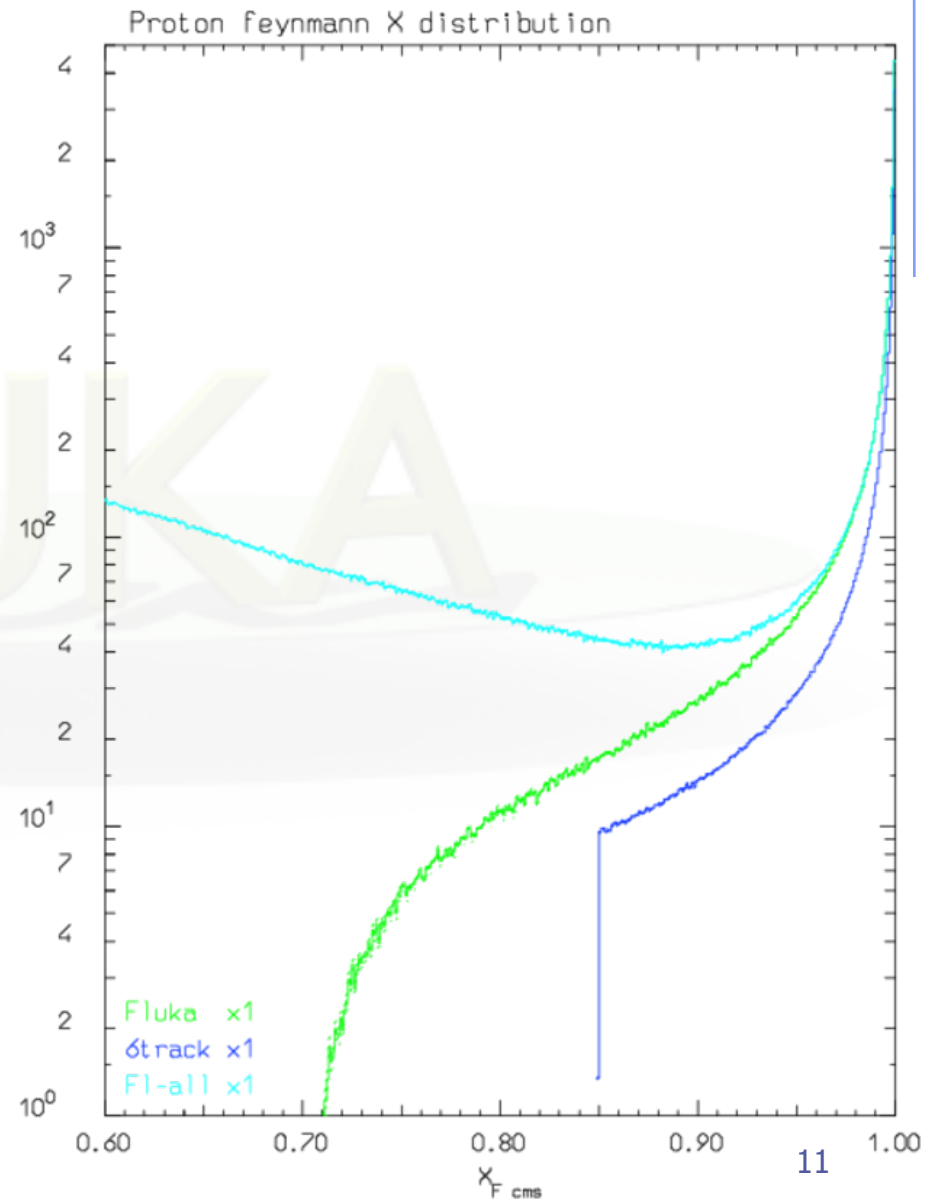
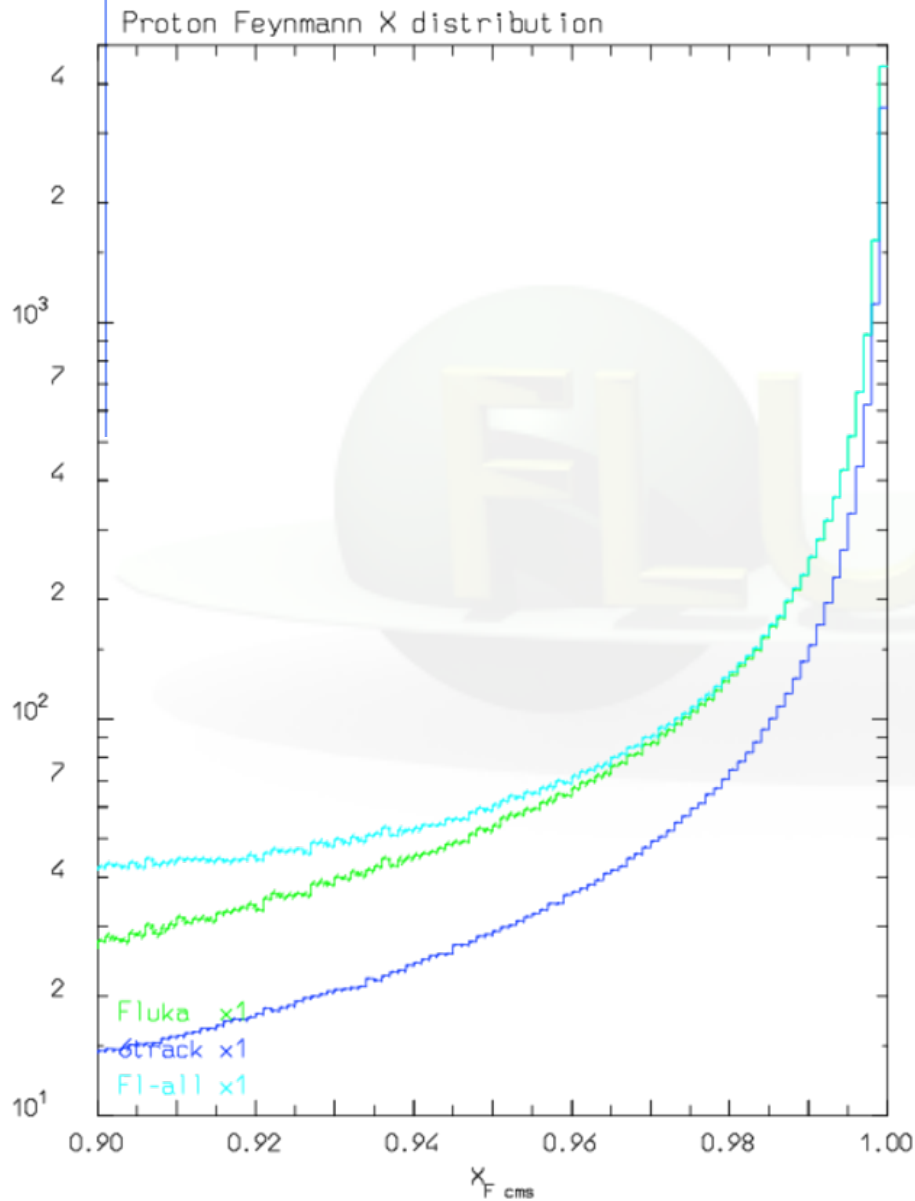
Normalized Integral of X distribution



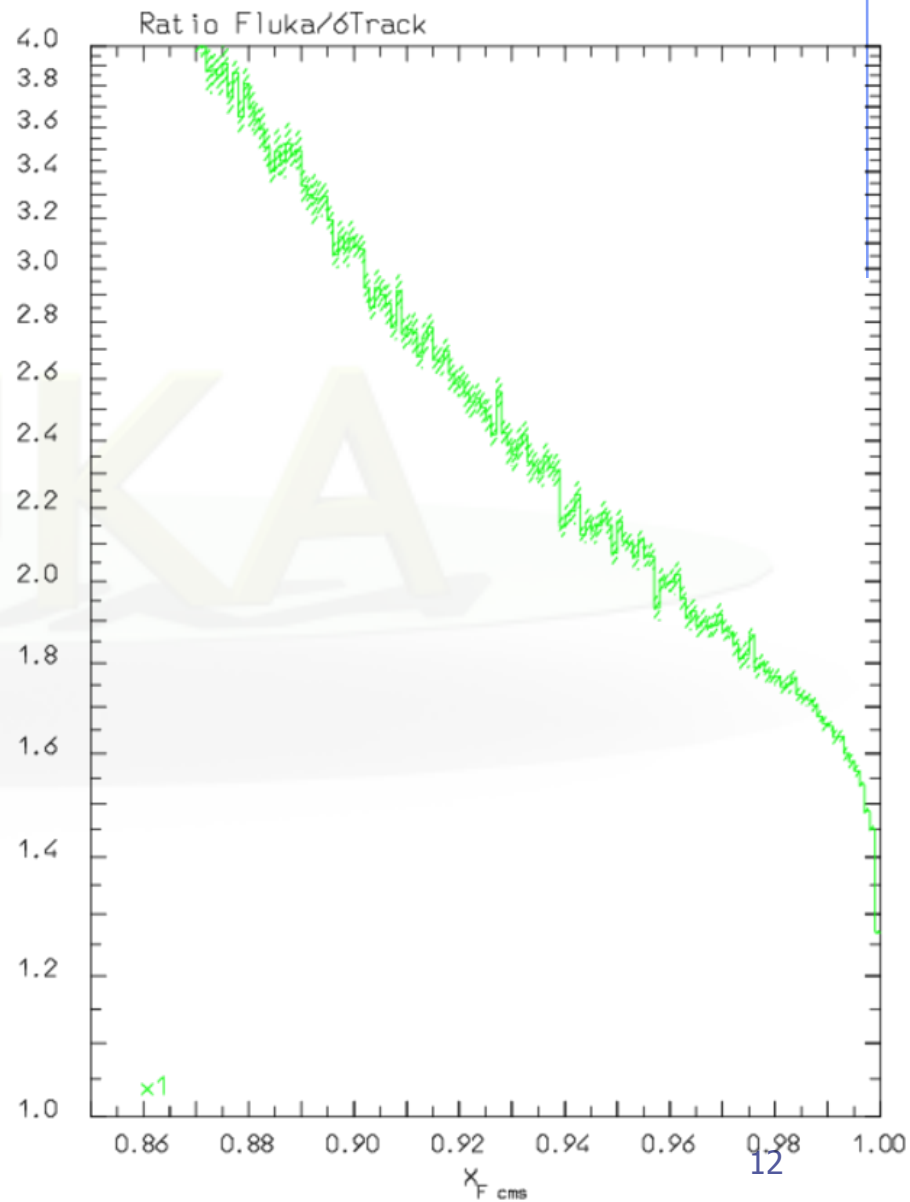
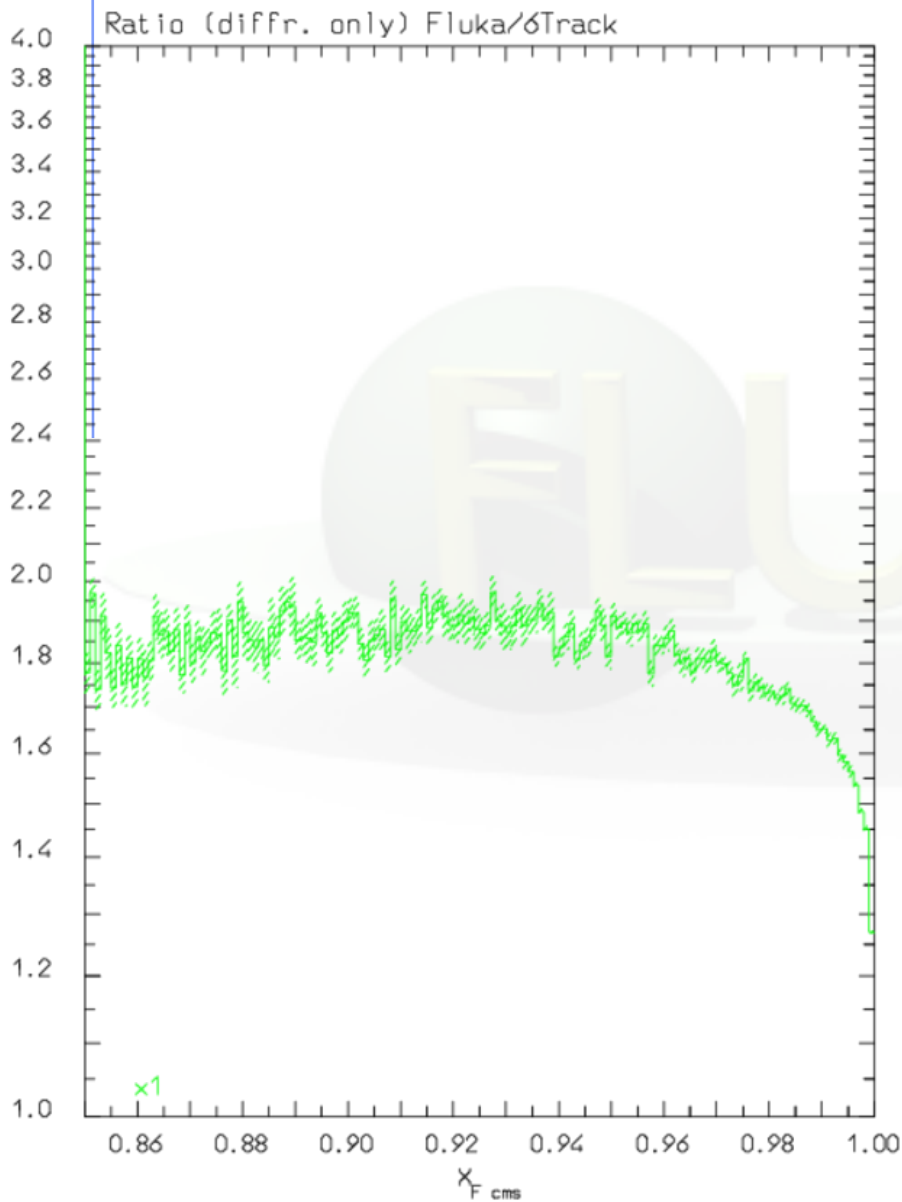
Transverse Momentum Distribution



Proton Feynmann X distribution



Ratio FLUKA / 6Track



Errors / Uncertainties

Factor	From	Why
1.3	FLUKA / Models	For integral quantities i) inelastic p-A extrapolation cross section at 7 TeV lab ii) uncertainty in the modeling used.
1.5 -2	FLUKA / Geometry	Modeling of large sector and assumptions used
?	6Track / FLUKA	Imperfections
1.3	6Track / Beam	Realistic beam distribution?
2-2.5	6Track/Model	Single diffractive model and total cross section Requires further investigation
5-8	Total	