Synrad3D calculations for Q48W, RFA 49W1-4 (chicane), and RFA 14E2/1

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Electron Cloud Meeting

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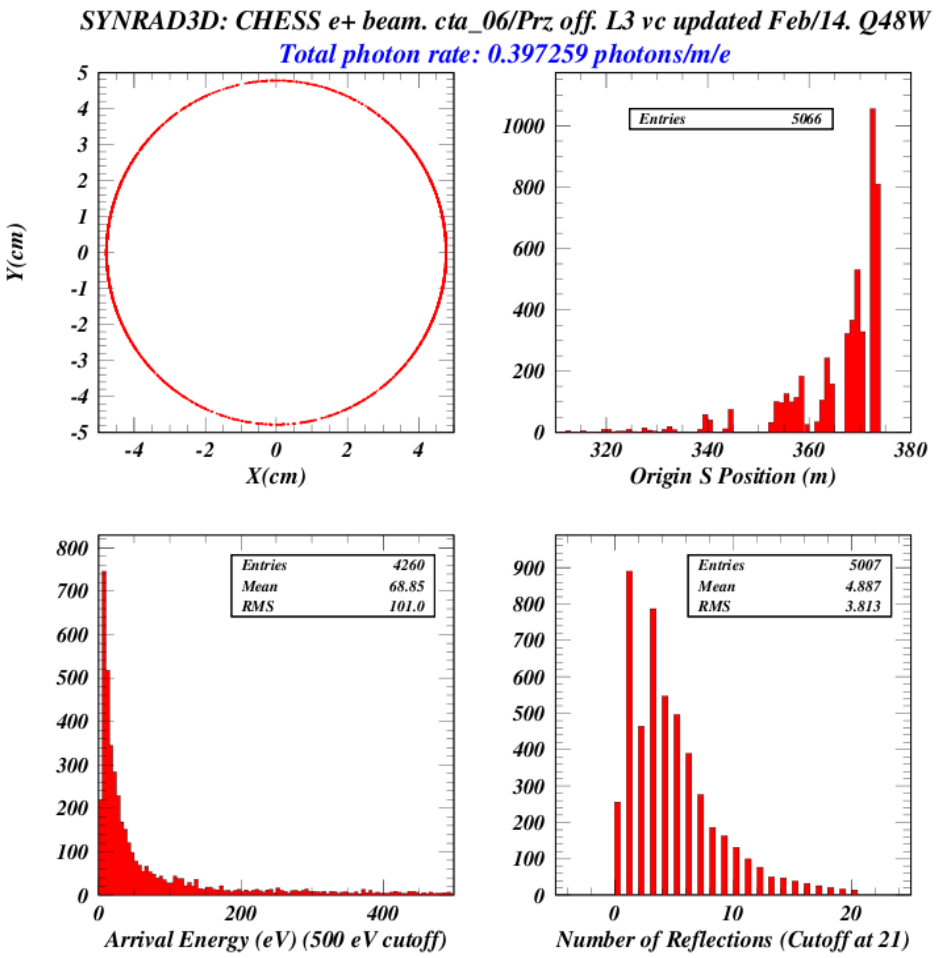
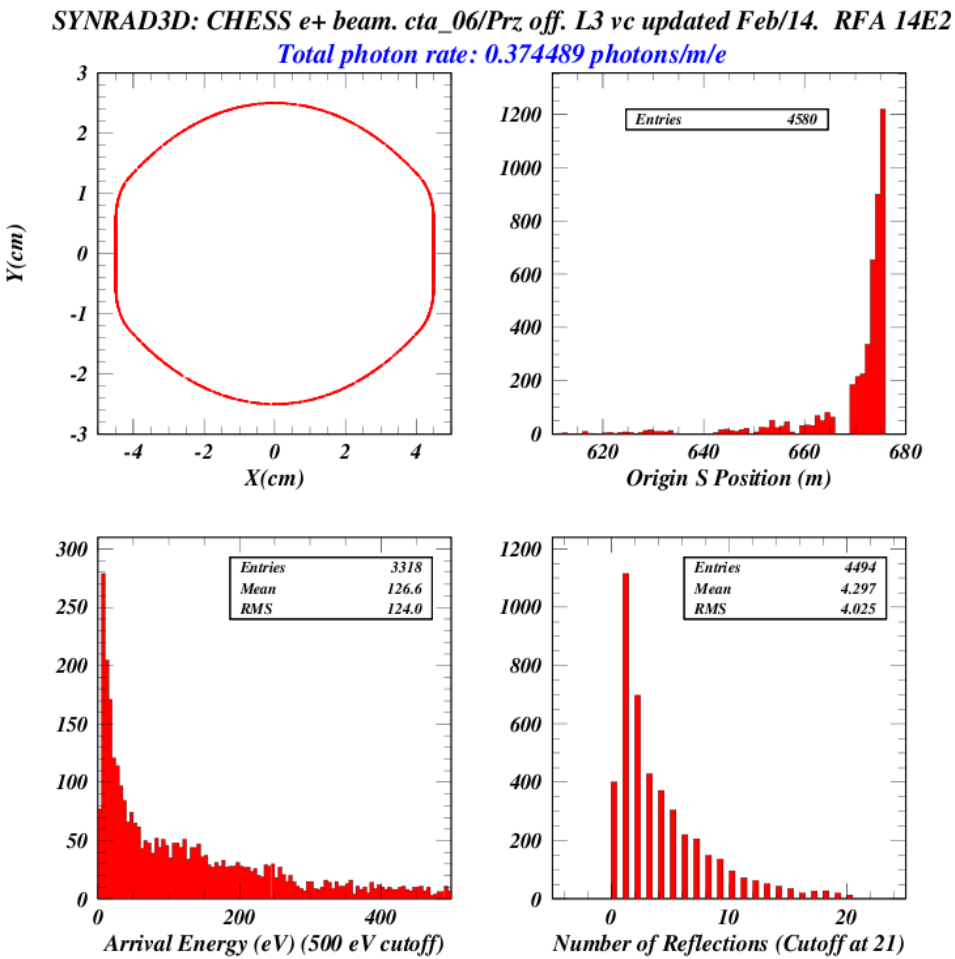
Photon Absorption Rates (Photons/m/e)

	Positron beam	Electron beam
Q48W	0.40	0.03
Q49W1	0.19	0.05
Q49W2	0.10	0.04
Q49W3	0.09	0.05
Q49W4	0.12	0.08
RFA14E2	0.37	0.46
RFA14E1	0.26	0.75

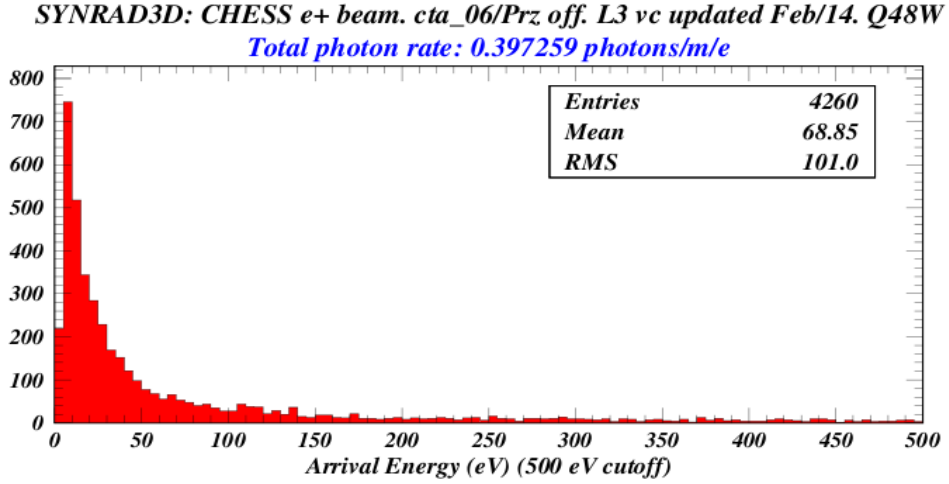
Compare Q48W and 14E2 Positron beam

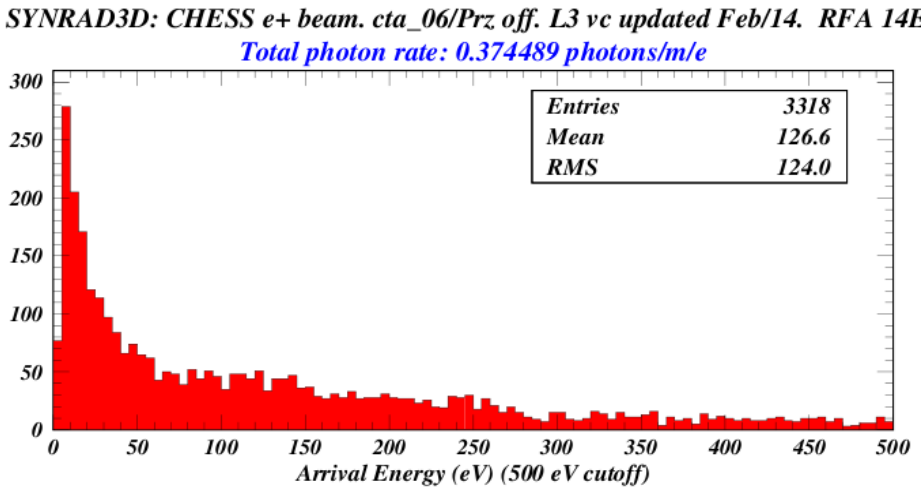


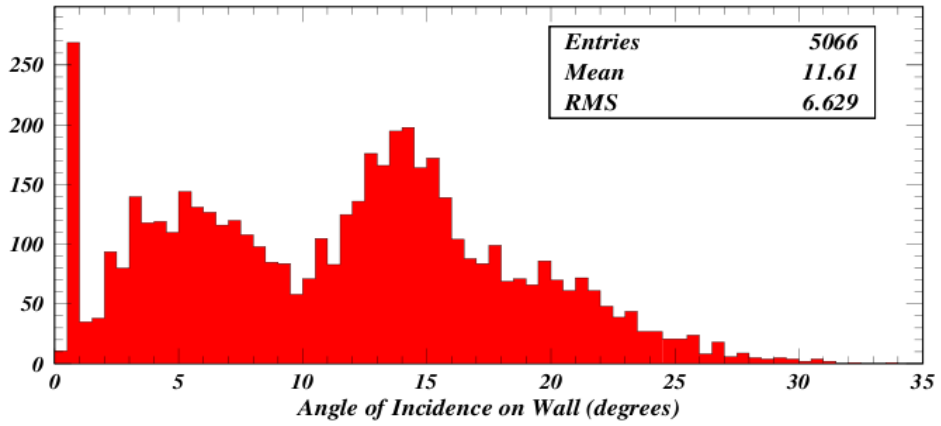


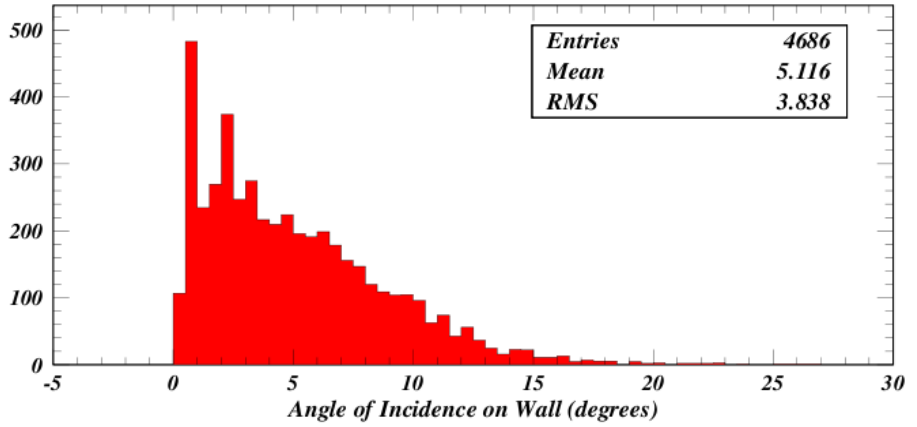
Total rate similar, but photon energies higher and fewer reflections at 14E.

Compare Q48W and 14E2 Positron beam







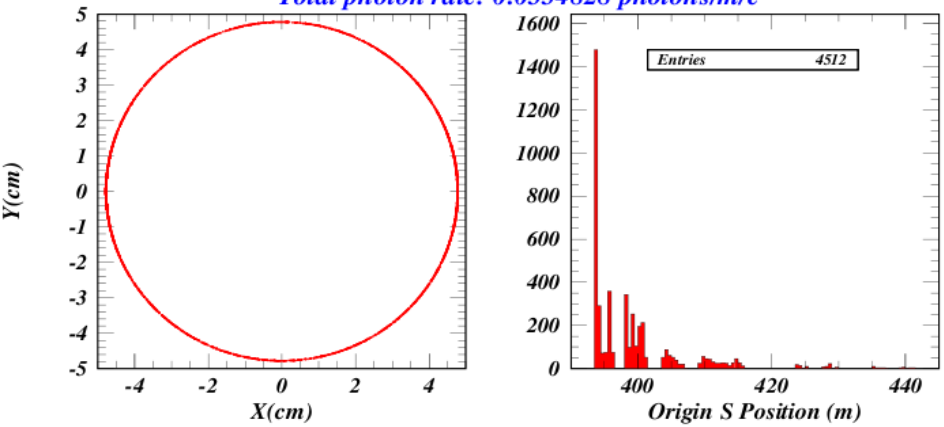


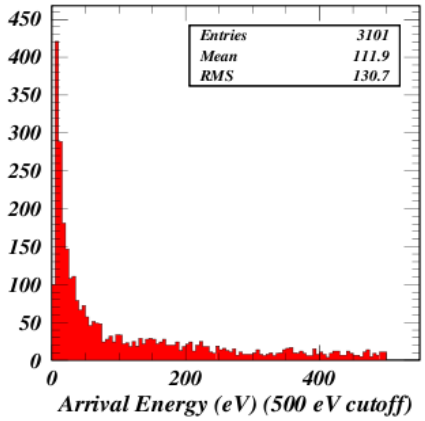
Much more glancing incidence at 14E, so QE will be higher.

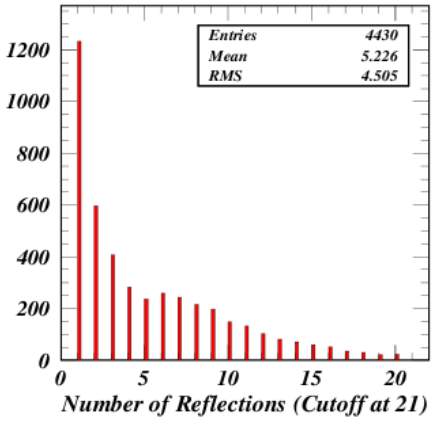
Compare Q48W and 14E2 Electron beam

SYNRAD3D: CHESS e- beam. cta_06/Prz off. L3 vc updated Feb/14. Q48W

Total photon rate: 0.0334828 photons/m/e

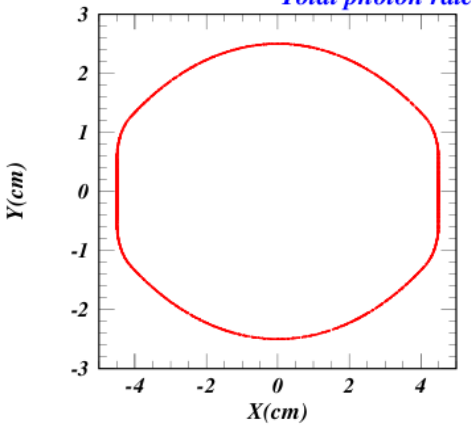


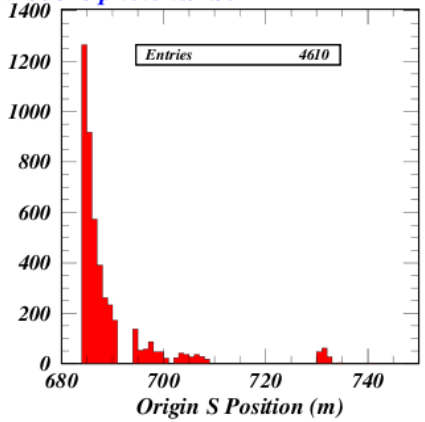


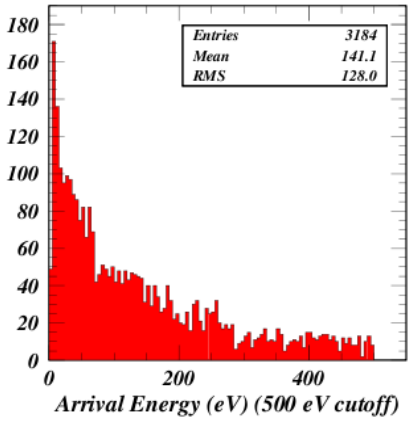


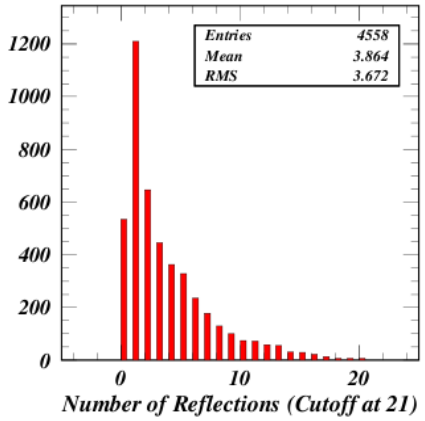
SYNRAD3D: CHESS e- beam. cta_06/Prz off. L3 vc updated Feb/14. RFA 14E2

Total photon rate: 0.460616 photons/m/e



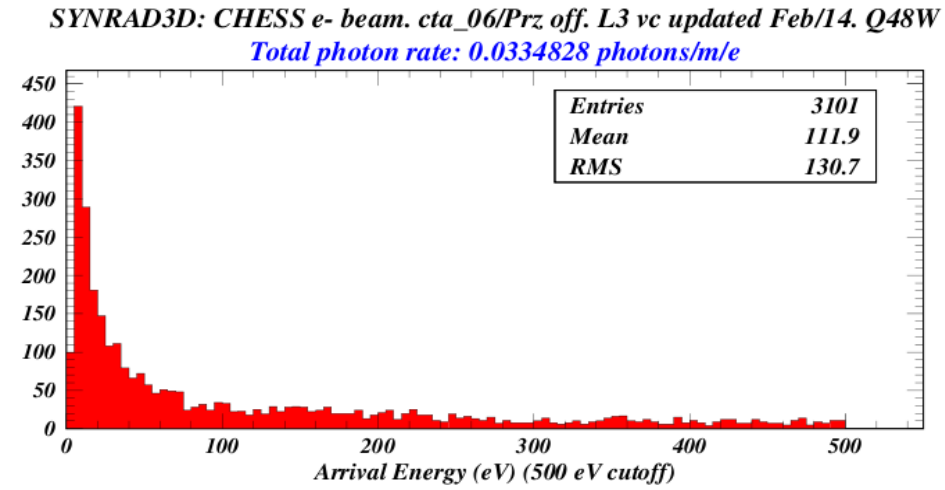


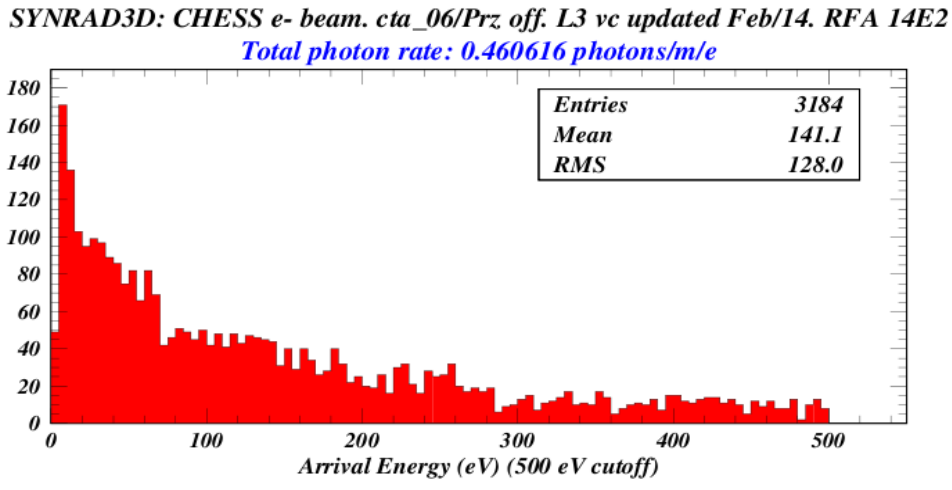


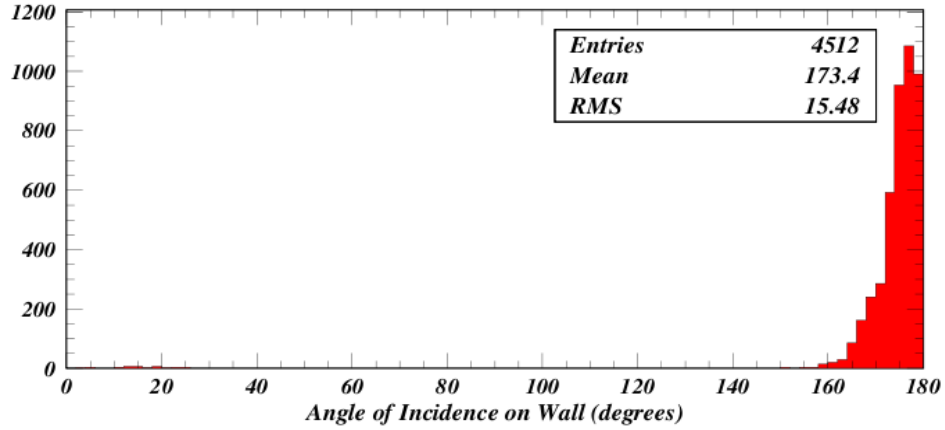


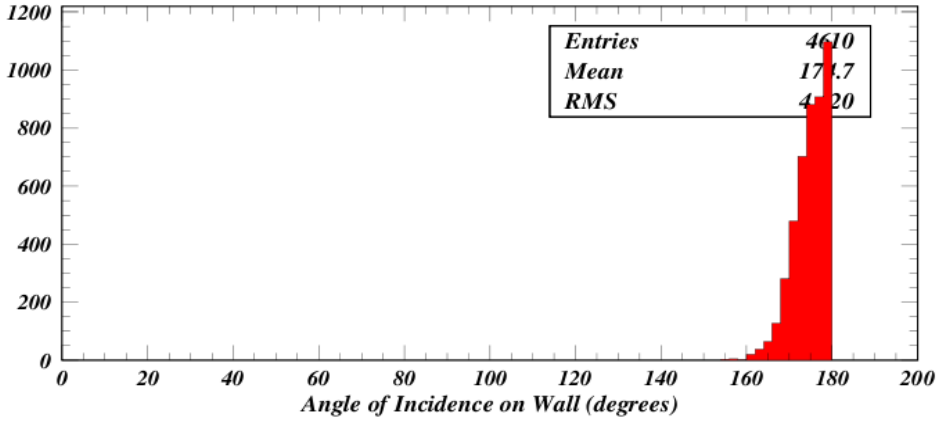
Total absorption rate is a factor of 20 higher. Photon energies are higher.

Compare Q48W and 14E2 Electron beam









Angles of incidence are similar.