



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

-- 14Nov2014: added SBE 15E/W to slide 2 --

Jim Crittenden

Electron Cloud Meeting

12 November 2014



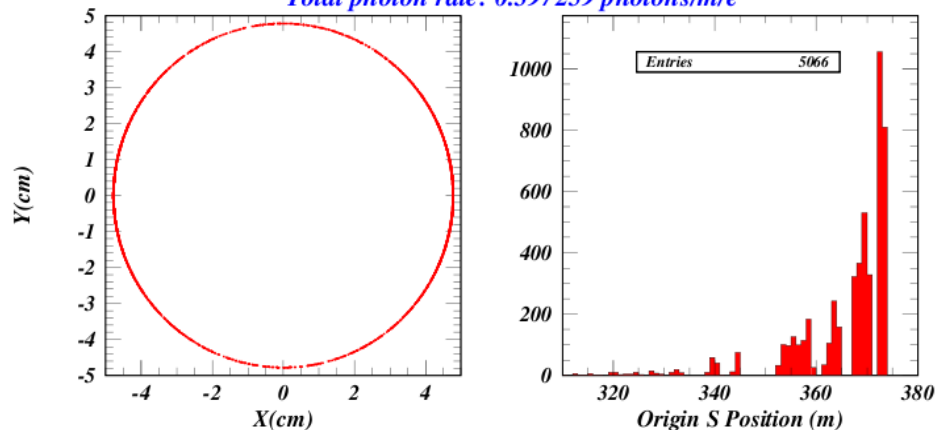


	<u>Positron beam</u>	<u>Electron beam</u>
Q48W	0.40	0.03
Q49W1	0.19	0.05
Q49W2	0.10	0.04
Q49W3	0.09	0.05
Q49W4	0.12	0.08
RFA14E2	0.37	0.46
RFA14E1	0.26	0.75
SBE 15E	0.47	0.74
SBE 15W	0.74	0.52

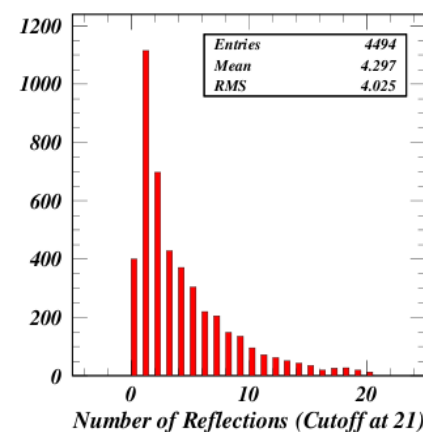
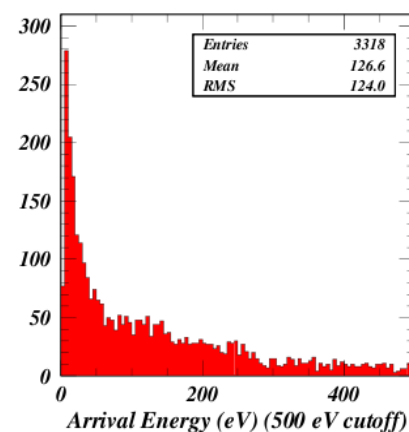
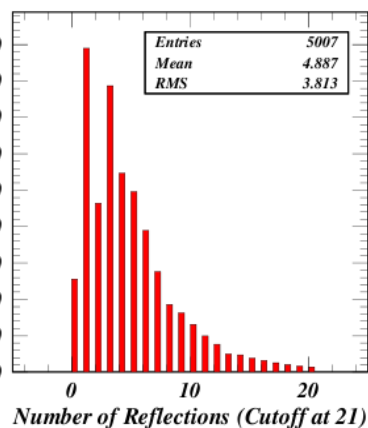
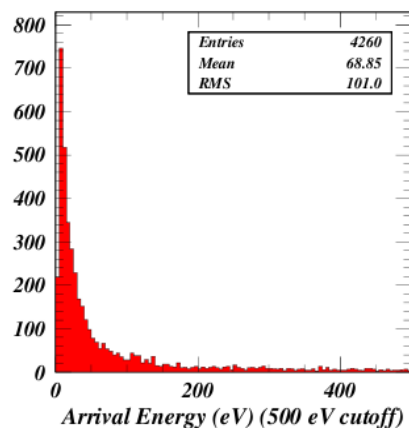
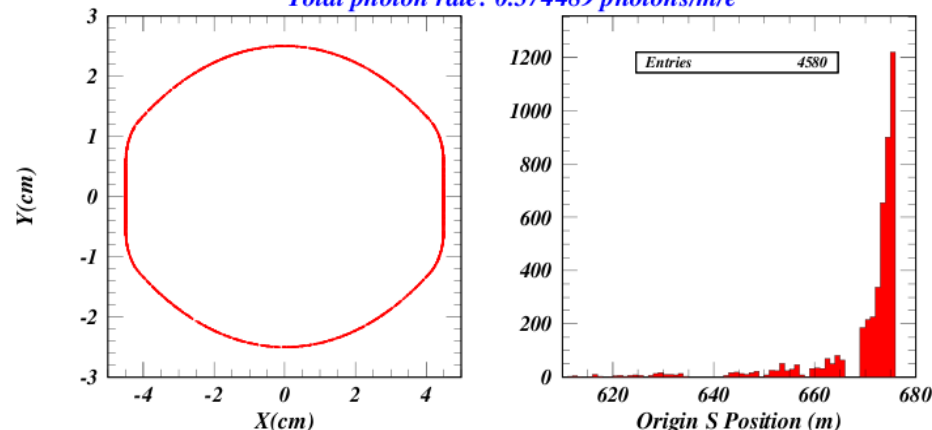


Compare Q48W and 14E2 Positron beam

SYNRAD3D: CHESS e+ beam. cta_06/Prz off. L3 vc updated Feb/14. Q48W
Total photon rate: 0.397259 photons/m/e



SYNRAD3D: CHESS e+ beam. cta_06/Prz off. L3 vc updated Feb/14. RFA 14E2
Total photon rate: 0.374489 photons/m/e



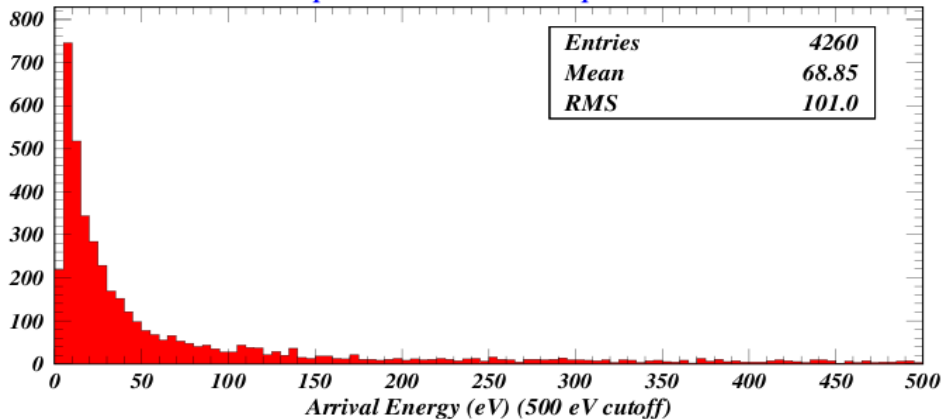
Total rate similar, but photon energies higher and fewer reflections at 14E.



Compare Q48W and 14E2 Positron beam

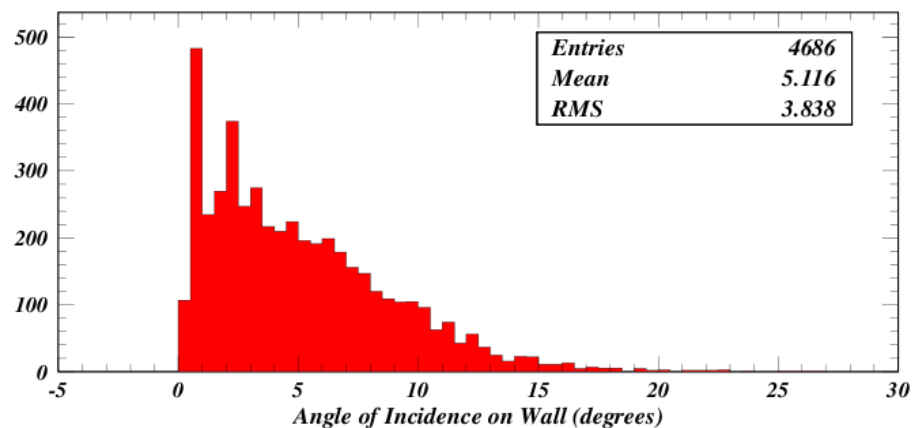
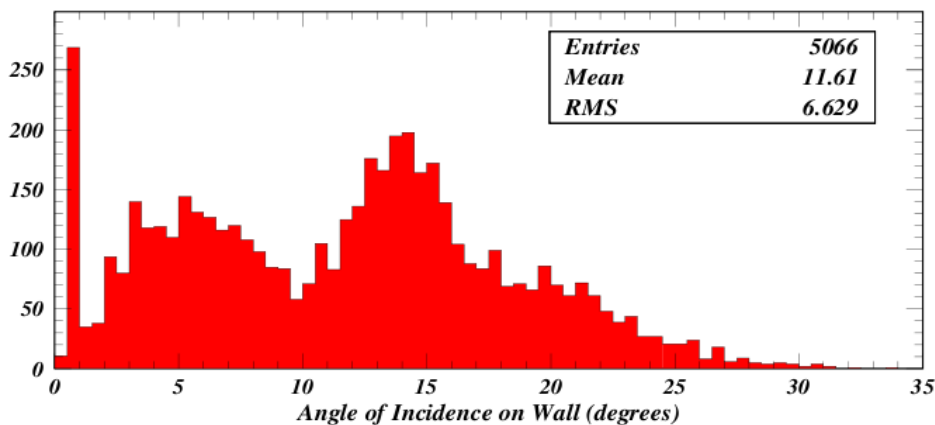
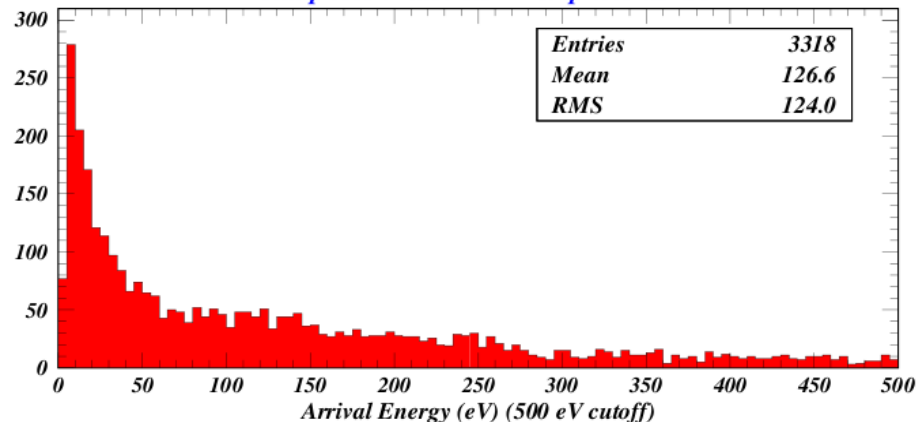
SYNRAD3D: CHESS e^+ beam. cta_06/Prz off. L3 vc updated Feb/14. Q48W

Total photon rate: 0.397259 photons/m/e



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

Total photon rate: 0.374489 photons/m/e



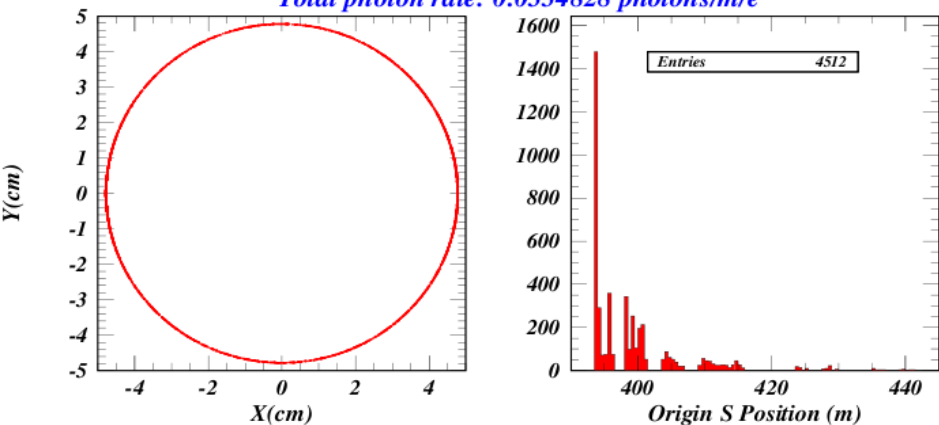
Much more glancing incidence at 14E, so QE will be higher.



Compare Q48W and 14E2 Electron beam

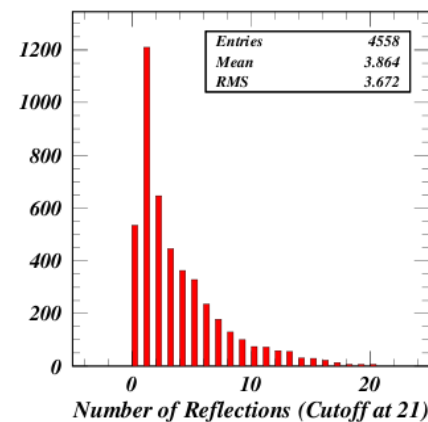
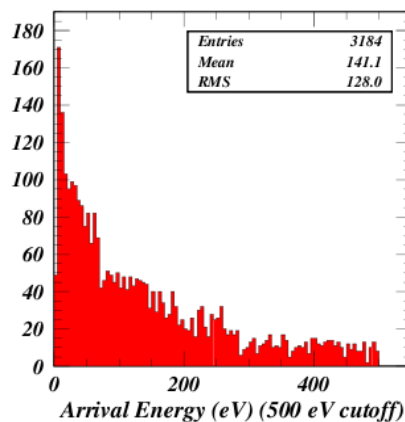
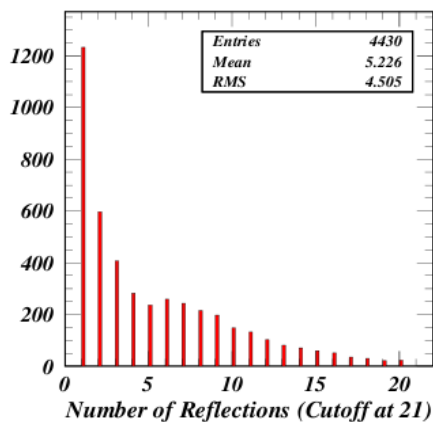
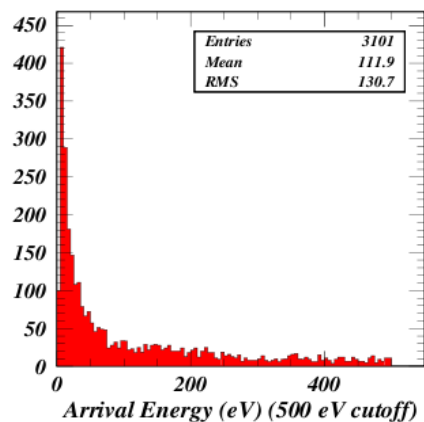
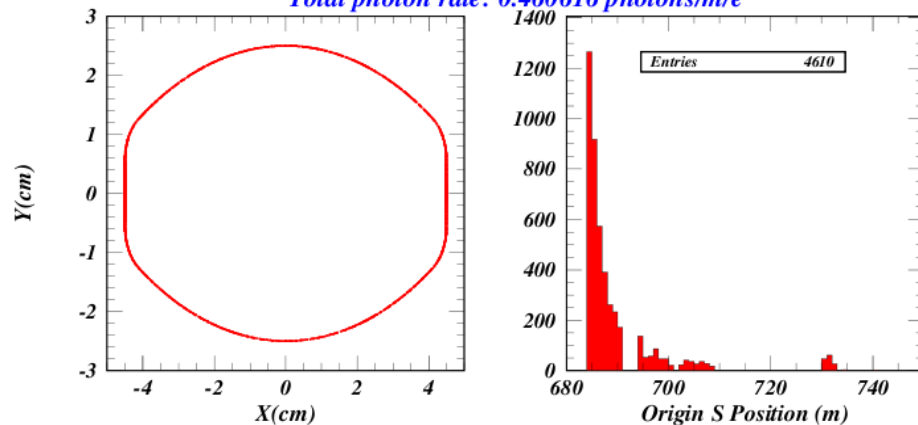
SYNRAD3D: CHESS e- beam. cta_06/Prz off. L3 vc updated Feb/14. Q48W

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.



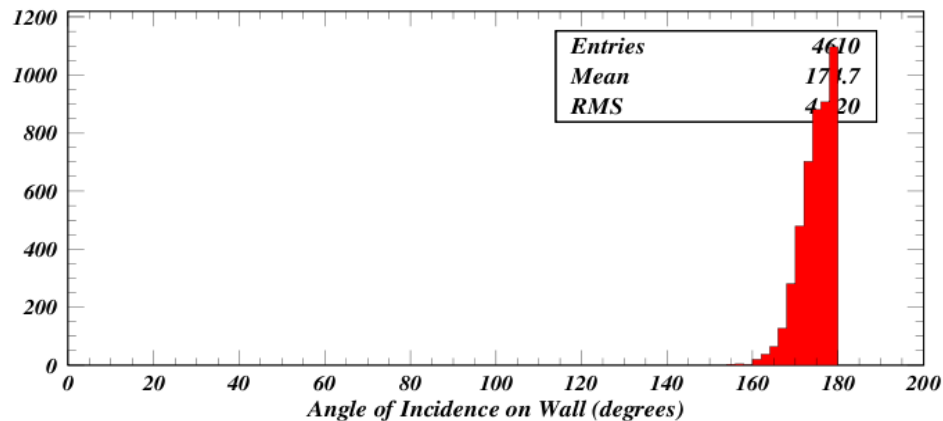
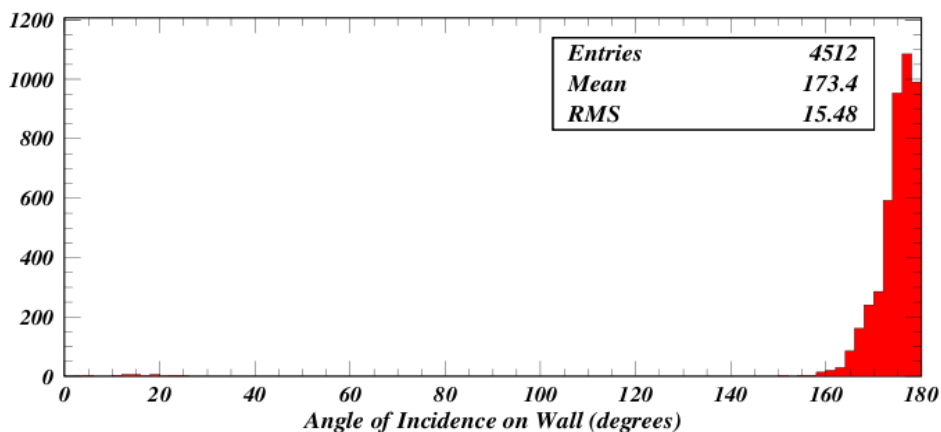
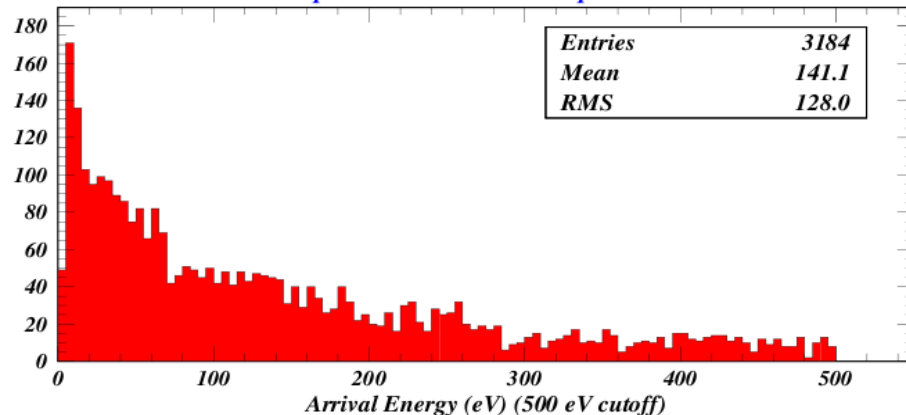
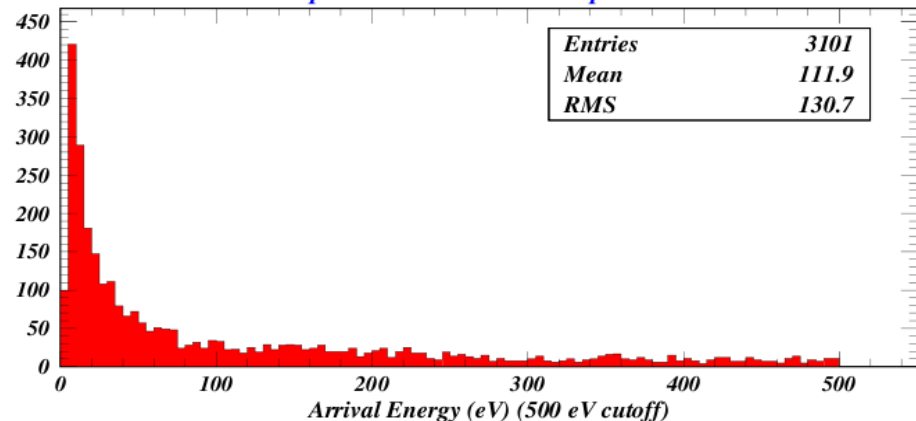
Compare Q48W and 14E2 Electron beam

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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



Angles of incidence are similar.