

prismi esagonali (CaloCube → ALADINO)

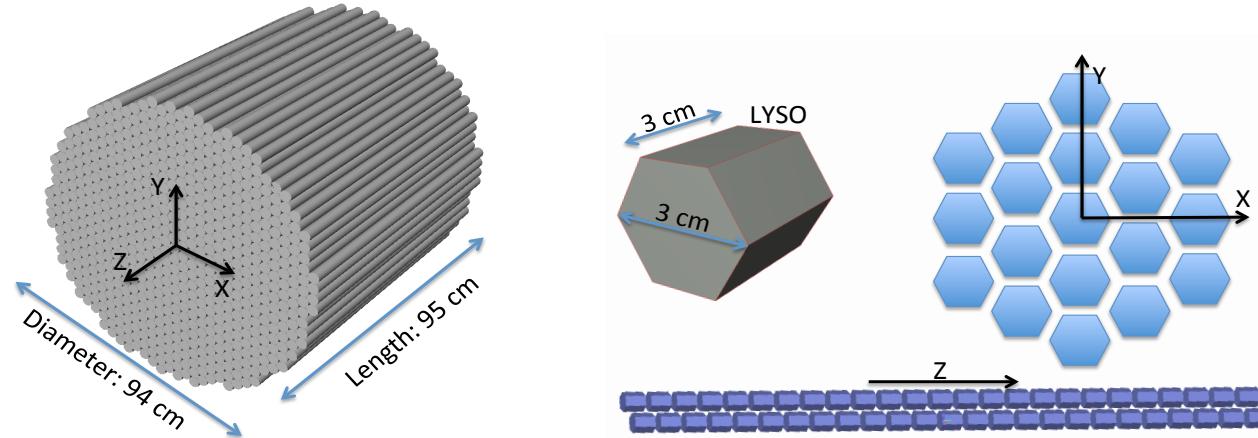
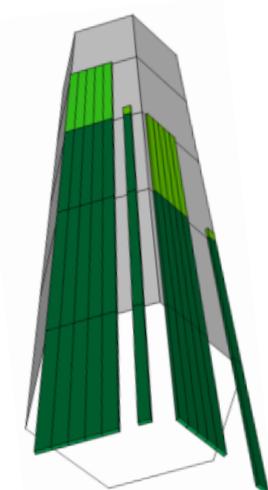
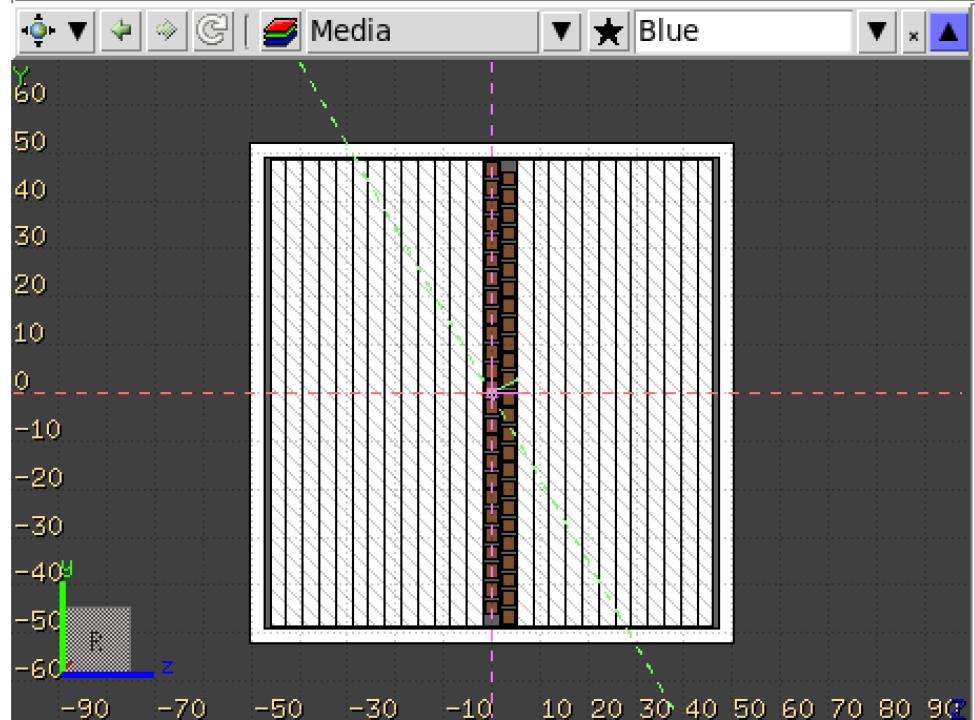
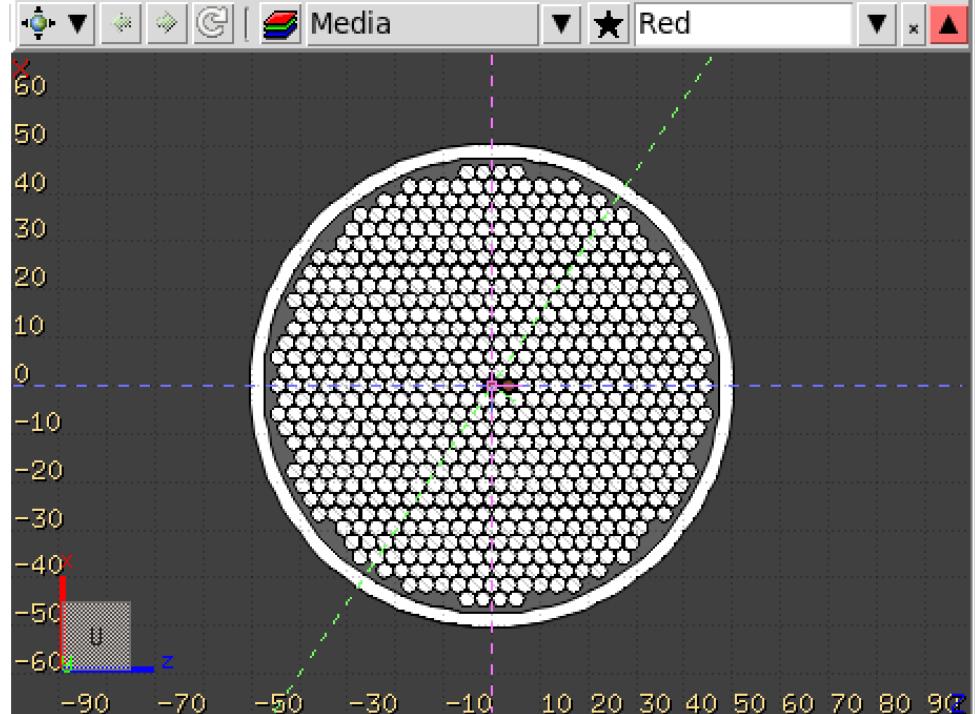
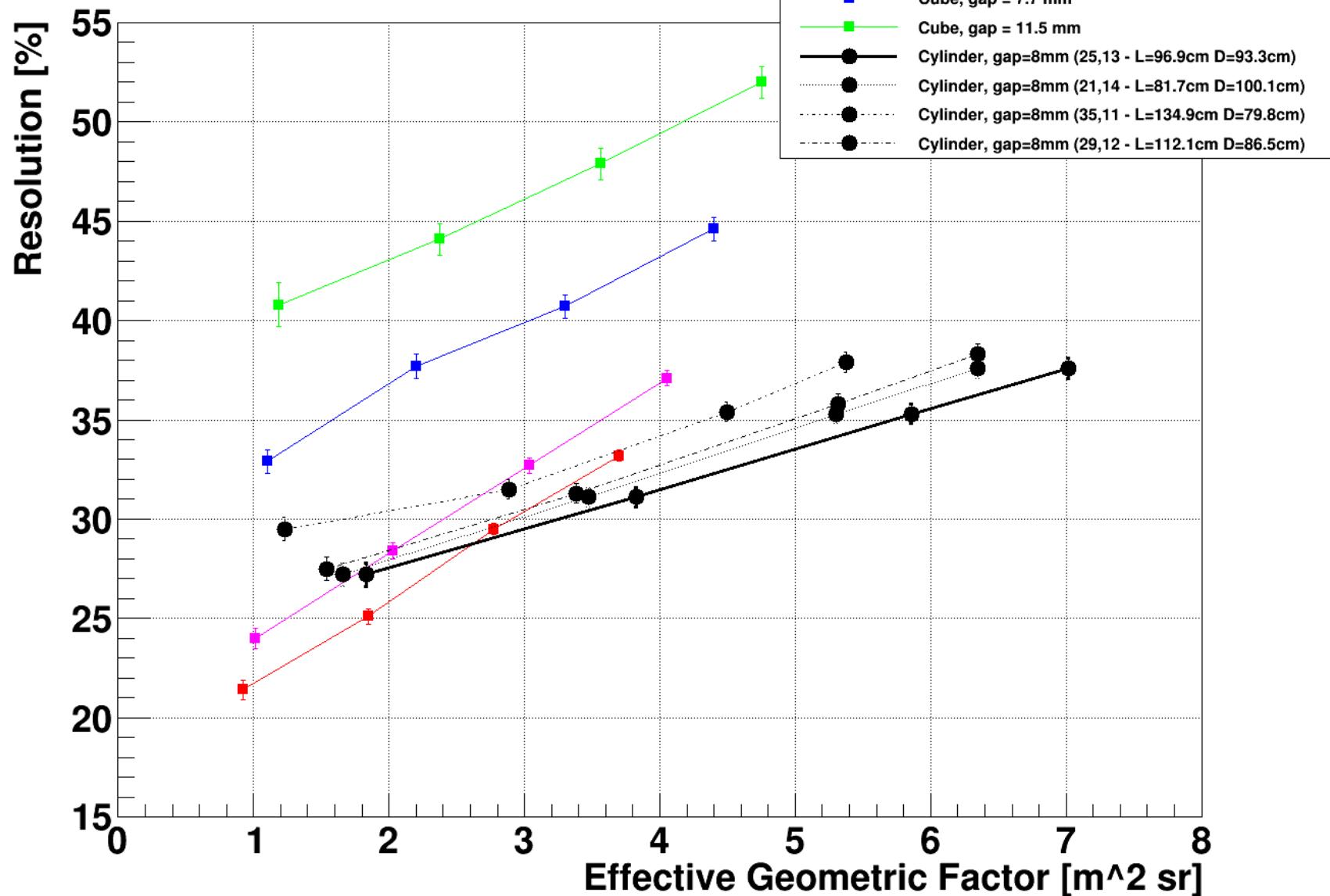


Figure 10. Upper, from left to right: the overall assembly of the hexagonal-prism-shape crystals – a total of 15925 elements are foreseen, arranged in 637 lines, each composed by 25 crystals; design of the basic crystal; an example of 19 assembled crystals on the X-Y plane – a 8 mm gap among the crystals allows to accommodate the support structure and, possibly, the read-out system. Lower: design of two adjacent strings of 25 assembled crystals – crystals are staggered by half-length to avoid dead space.

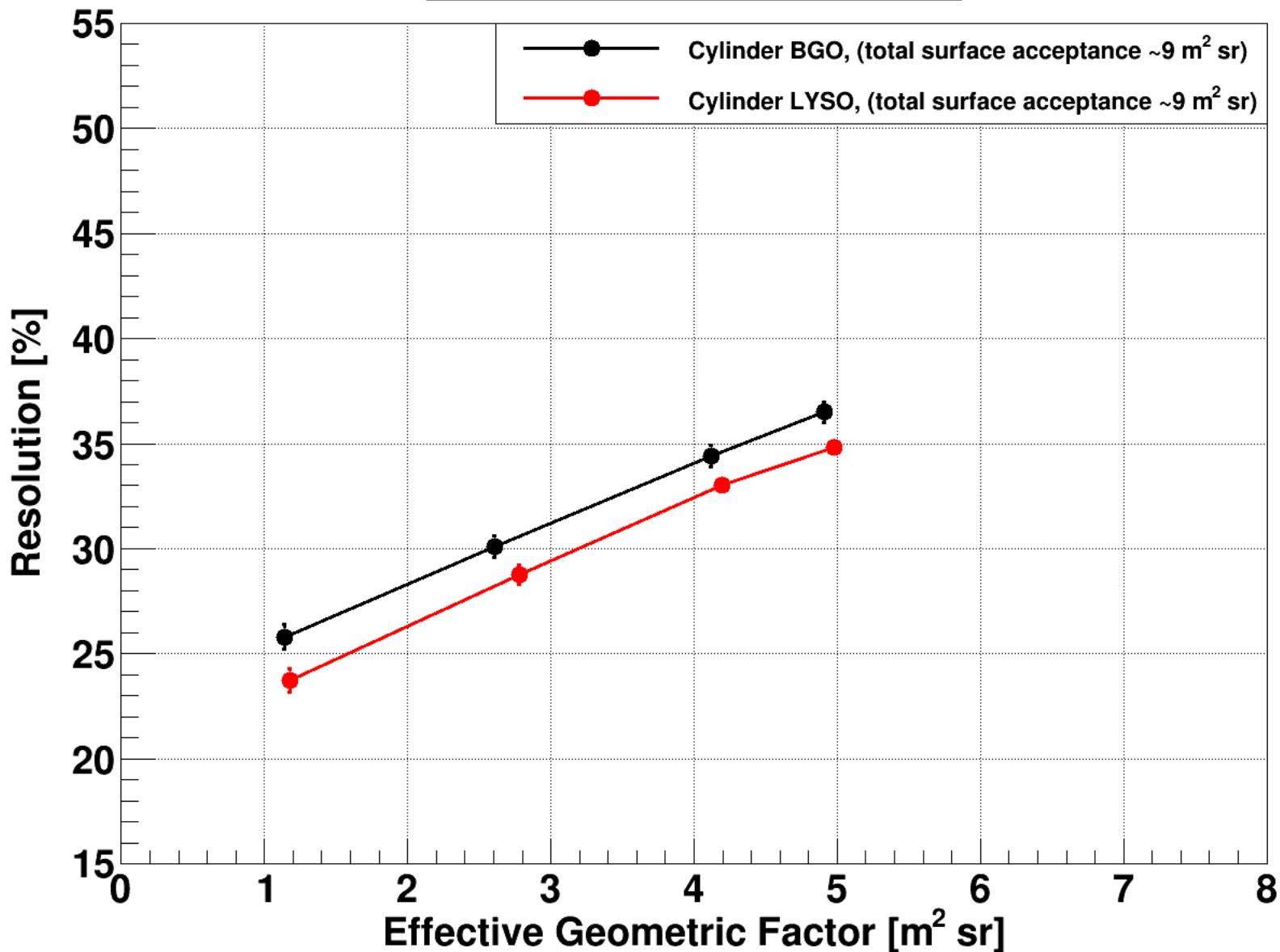


A parità di peso diverse possibilità della configurazione cilindrica (L,D)

BGO calorimeters



calorimeter resolution



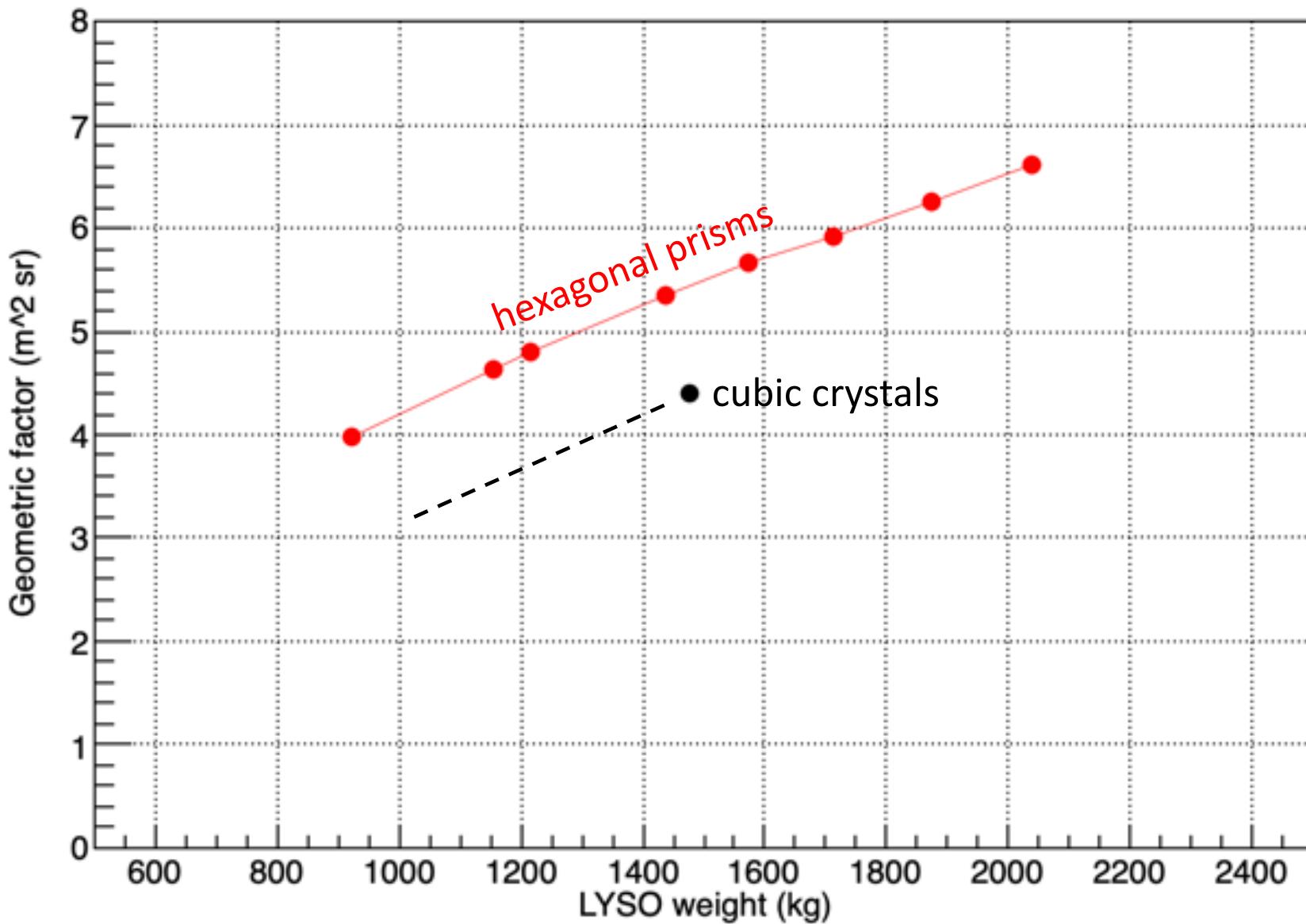
Calorimetro a prismi esagonali per HERD

lunghezza (cm)	raggio (cm)	n° cristalli	Massa LYSO (kg)	GF laterale (m ² sr)	GF piano (m ² sr)	GF HERD $\theta < 90^\circ$ (m ² sr)
96.9 (25)	46.7 (13)	15925	2039	8.93 (ALADINO)	2.15	6.62
89.3 (23)	46.7 (13)	14651	1876	8.23	2.15	6.26
81.7 (21)	46.7 (13)	13377	1713	7.53	2.15	5.92
89.3 (23)	43.3 (12)	12305	1575	7.63	1.85	5.67
81.7 (21)	43.3 (12)	11235	1438	6.98	1.85	5.34
81.7 (21)	39.8 (11)	9471	1212	6.43	1.57	4.79
77.9 (20)	39.9 (11)	9020	1155	6.13	1.57	4.64
74.1 (19)	36.5 (10)	7201	921	5.34	1.31	3.98

Calorimetro a cubi attuale per HERD

altezza (cm)	lato (cm)	n° cristalli	massa LYSO (kg)			GF HERD $\theta < 90^\circ$ (m ² sr)
~ 80	~ 80	~7500	1478			~ 4.4

HERD geometric factor



Per il fattore geometrico efficace è probabile che il miglioramento sia anche più marcato

Forma esterna a sfera?
Non si guadagna nel
fattore geometrico
«nudo»... ma si
guadagna nel fattore
geometrico
efficace.

