

Magnet@SPring-8

Magnet design concept is to utilize conventional technology at most and to save electricity consumption as much as we can.

Maximum Magnet Strength

Max. B	0.953 T
Max. Q	56 T / m
Max. Sx	2900 T / m²
Max. Oct	under opt.

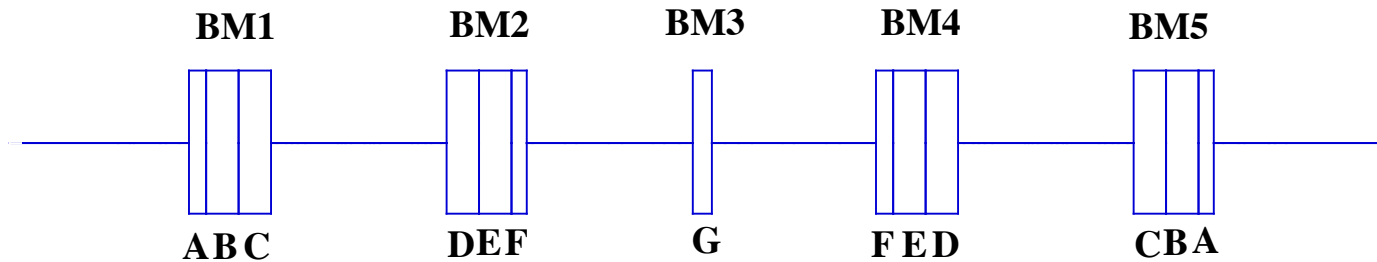
Magnet Bore Radius /Gap

B	25 mm
Q & Sx	17 mm

Chamber Aperture (inside)

B	17(h) mm
Q & Sx	30(w)x16(h) mm

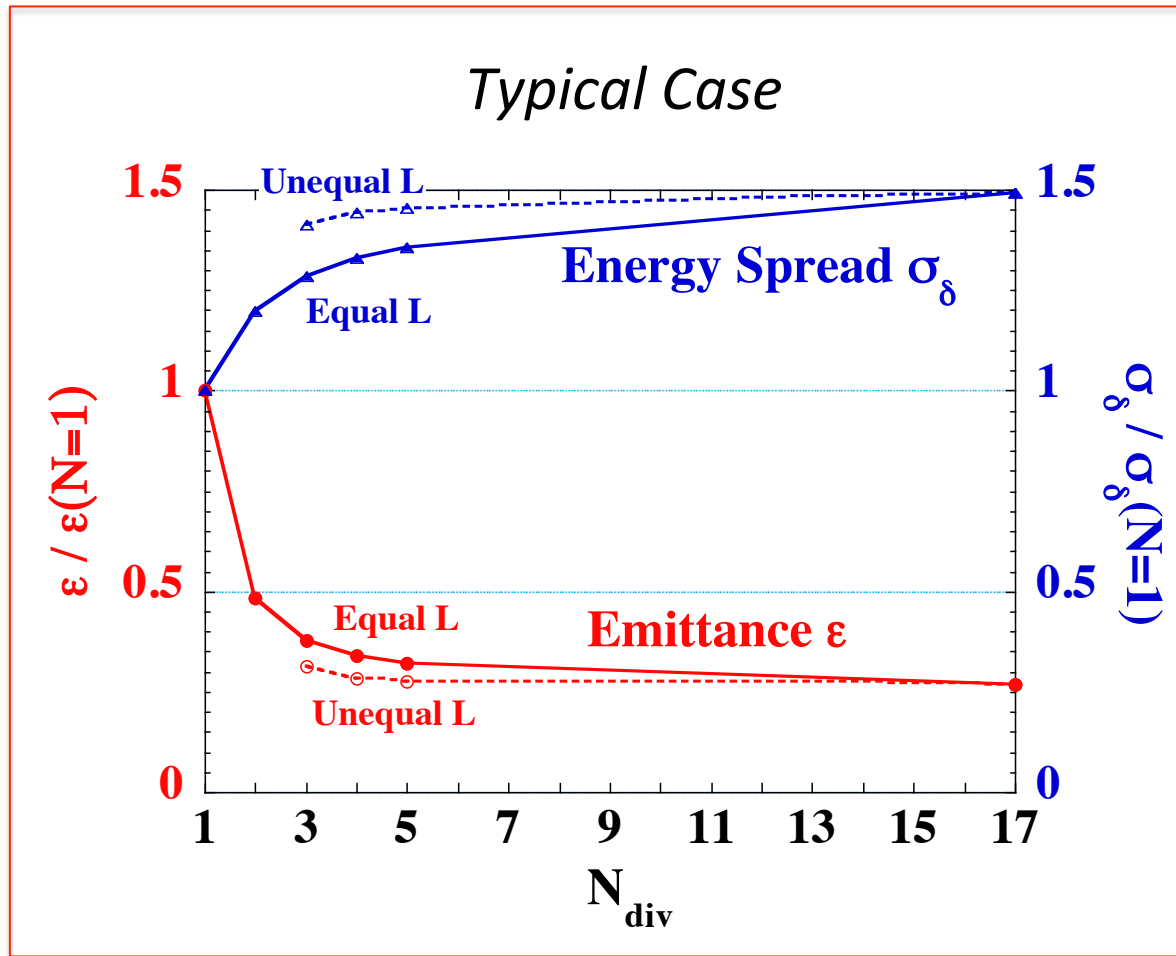
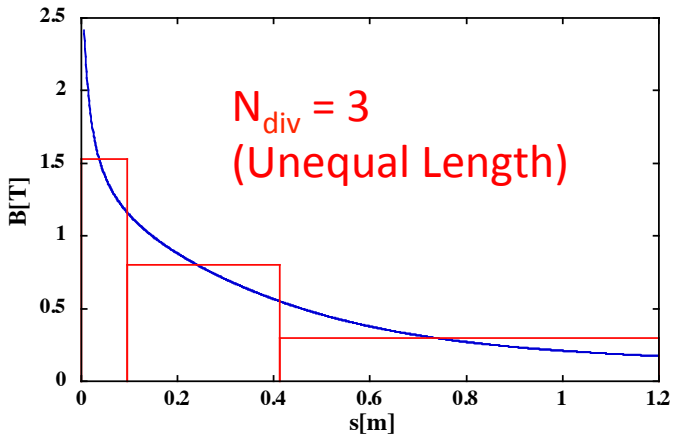
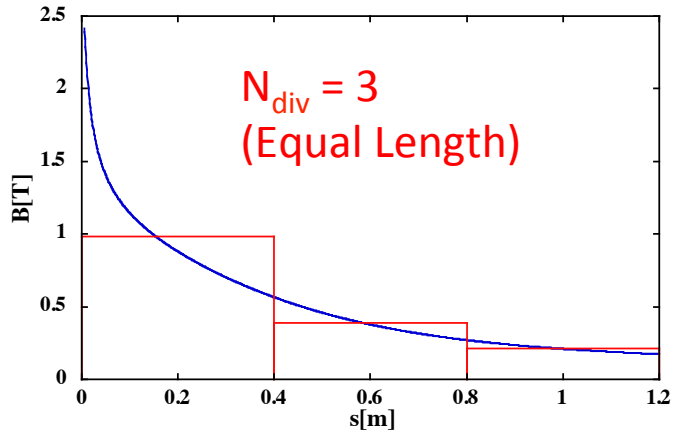
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BM1=[ABC], BM2=[DEF], BM3=[G], BM4=[FED], BM5=[CBA]

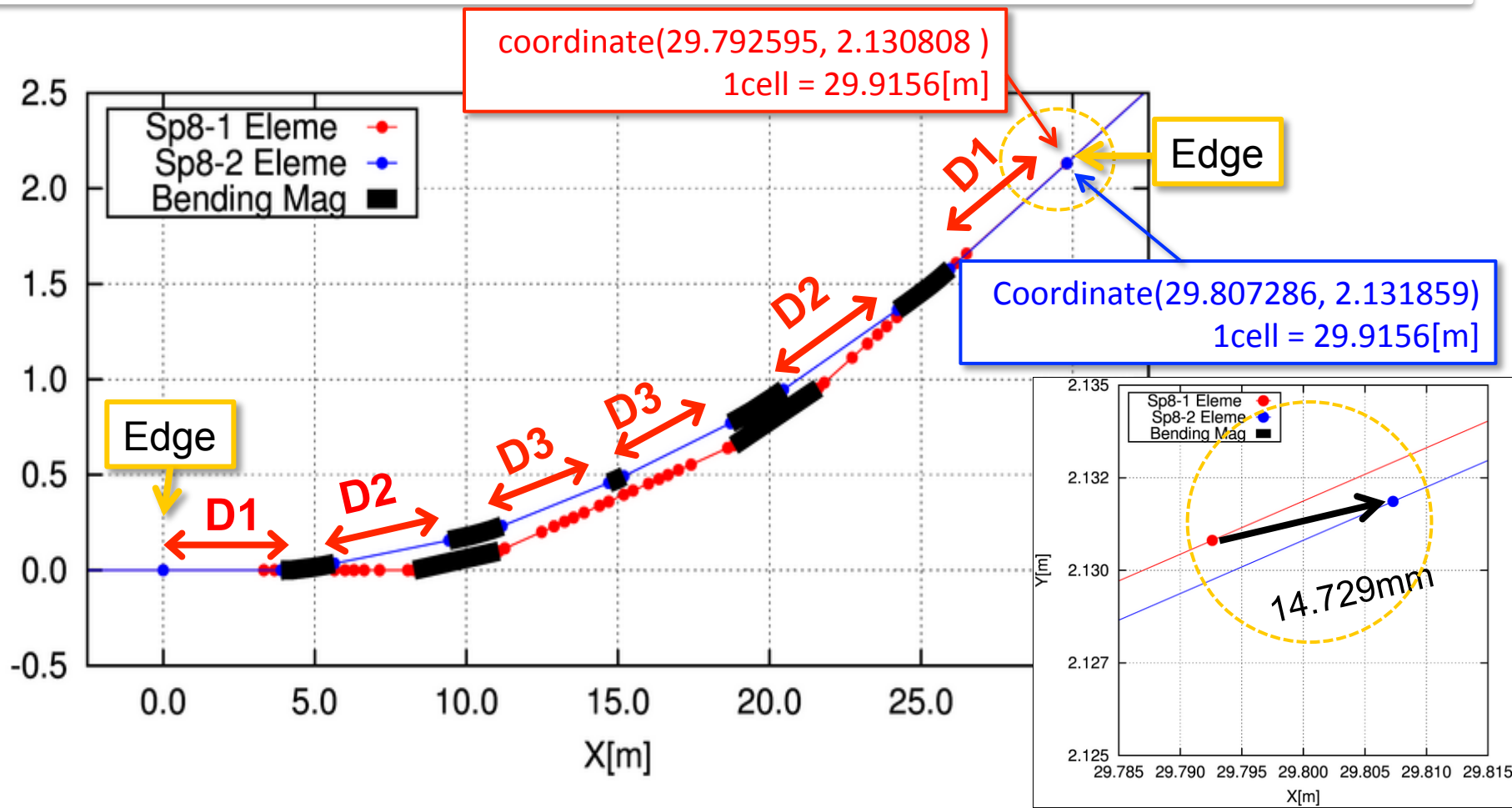
	A	B	C	D	E	F	G	Present
Energy [GeV]	6	6	6	6	6	6	6	8
Path L. [m]	0.35	0.70	0.70	0.70	0.70	0.35	0.42	2.80
Field [T] @ 6GeV	0.582	0.296	0.166	0.221	0.395	0.775	0.953	0.679
B. Radius [m]	34.4	67.6	121	90.7	50.7	25.8	21.0	39.3
B. Angle [mrad]	10.2	10.4	5.79	7.71	13.8	13.6	20.0	71.4
Ecp [keV]	13.9	7.09	3.96	5.28	9.45	18.6	22.8	28.9

Approximate Field and Emittance



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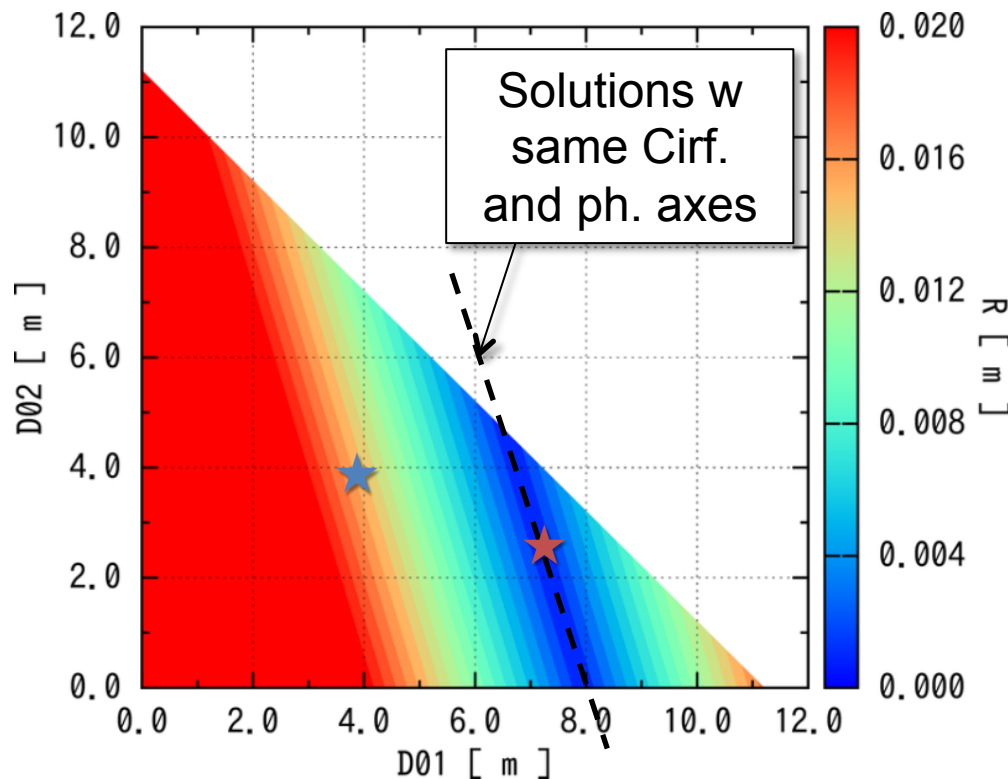
Unit cell length was adjusted to preserve all ID photon beam axes and a slight change of RF frequency is needed to keep the same harmonic number



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< ID photon axis v.s. section lengths >



Circumference

1435.9488 m@2B



1435.2991 m@5B

RF frequency will be varied by +230 kHz