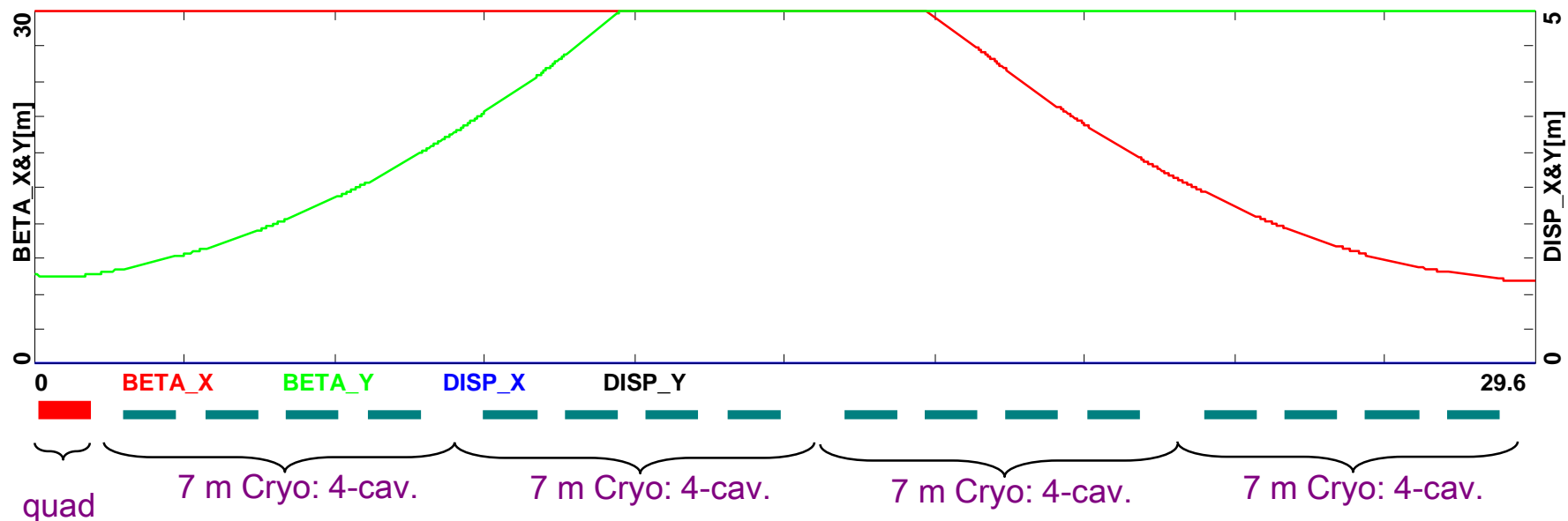


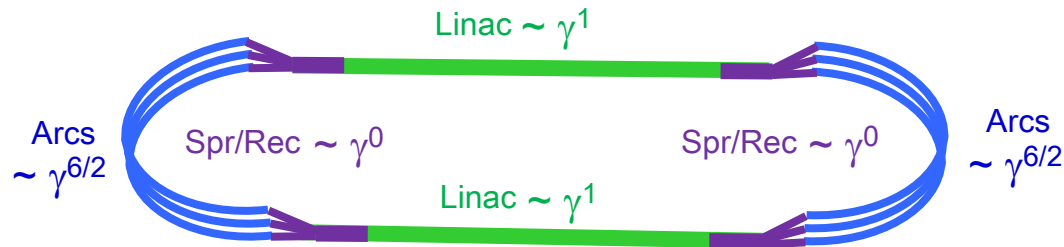
Cryo Unit Layout/Optics – Half-Cell 130⁰ FODO



5-cell cavity length (no beam-tubes) [m]	0.918
5-cell cavity length (with beam-tubes) [m]	1.500
4-cavity cryomodule length [m]	7.000
Cavity gradient [MV/m]	20.00
Cryo-unit length [m]	29.60
Energy gain /cryo-unit [MeV]	293.76

Energy Scaling – Preserving Emittance Dilution

$$De_x^N = \frac{55r_0}{24\sqrt{3}} \frac{\hbar c}{mc^2} g^6 \langle H_x \rangle \frac{\rho}{r^2}$$



$\frac{1}{3}$

E [GeV]	60.5
Linac [m]	1066
Number of Cryos	36
Arc Radius [m]	1027
Spr/Rec Matching [m]	76
Circumference [m]	8886

$\frac{1}{4}$

E [GeV]	53.6
Linac [m]	947
Number of Cryos	32
Arc Radius [m]	711
Spr/Rec Matching [m]	76
Circumference [m]	6665

$\frac{1}{5}$

E [GeV]	48.6
Linac [m]	858
Number of Cryos	29
Arc Radius [m]	533
Spr/Rec Matching [m]	76
Circumference [m]	5332

$\frac{1}{6}$

E [GeV]	44.6
Linac [m]	770
Number of Cryos	26
Arc Radius [m]	410
Spr/Rec Matching [m]	76
Circumference [m]	4443

Energy Scaling – Preserving Emittance Dilution

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E [GeV]	30.8
Linac [m]	533
Number of Cryos	18
Arc Radius [m]	136
Spr/Rec Matching [m]	76
Circumference [m]	2222