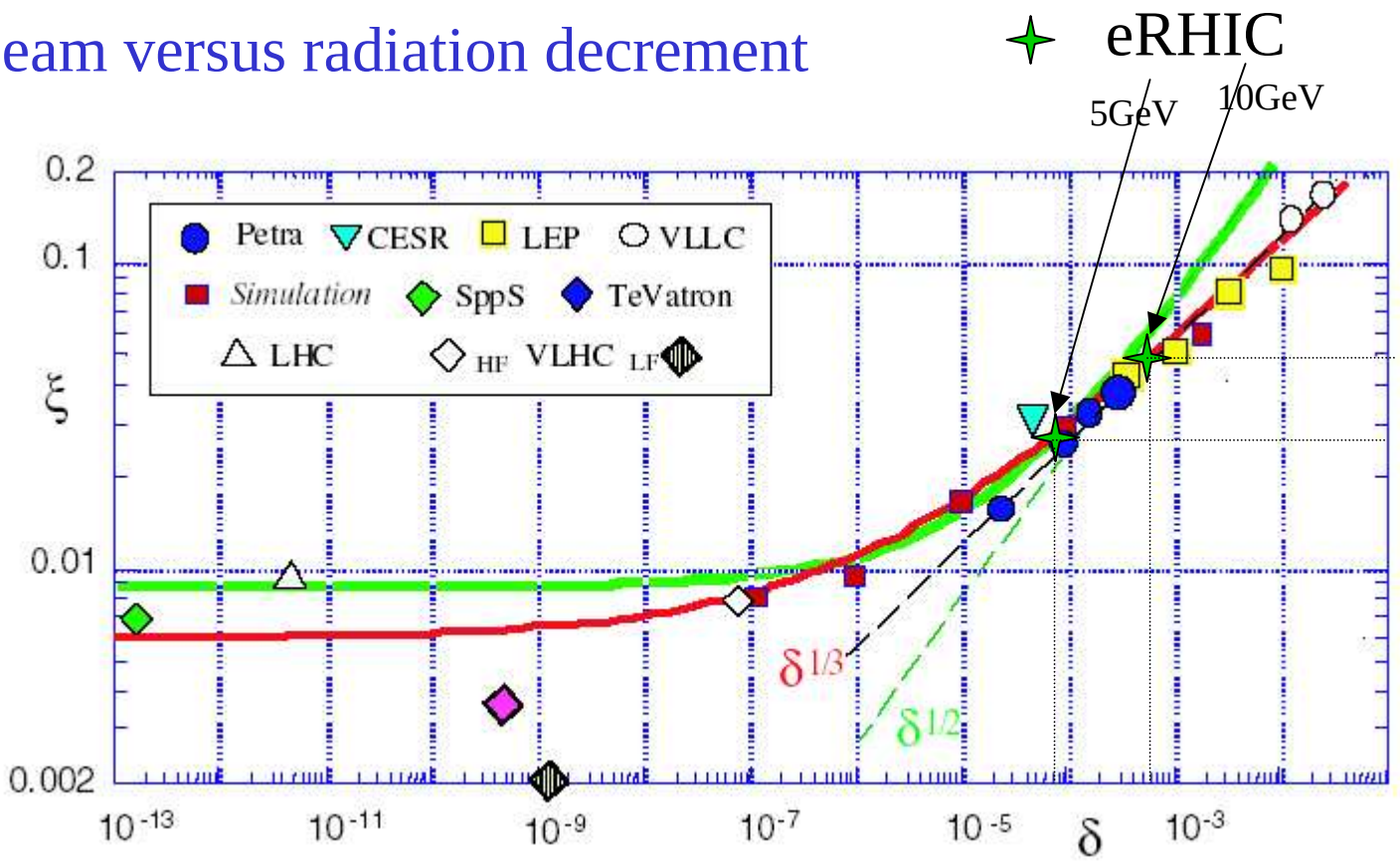
Beam-beam versus radiation decrement



E=10 GeV, $\delta = 5.7 \times 10^{-4} \rightarrow \xi = 0.048$

E=5 GeV, $\delta = 0.7 \times 10^{-4} \rightarrow \xi = 0.024 \rightarrow \varepsilon = 93\text{nm}$

Luminosity adjustment at 5 GeV

ξ_e=0.05

	250p/5e	50p/5e	100Au/5e
Ion normalized emittance	14.5	14.5	6
Ion beta*,cm	51	26	50
Electron emittance, nm	46	46	36
Electron beta*,cm	10	25	12
Luminosity, 1e33	0.5	0.2	0.005

ξ_e=0.025

	250p/5e	50p/5e	100Au/5e
Ion normalized emittance	14.5	14.5	6
Ion beta*,cm	102	26	100
Electron emittance, nm	92	92	72
Electron beta*,cm	10	12	12
Luminosity, 1e33	0.25	0.2	0.0025

Luminosity reduction for top energy ions