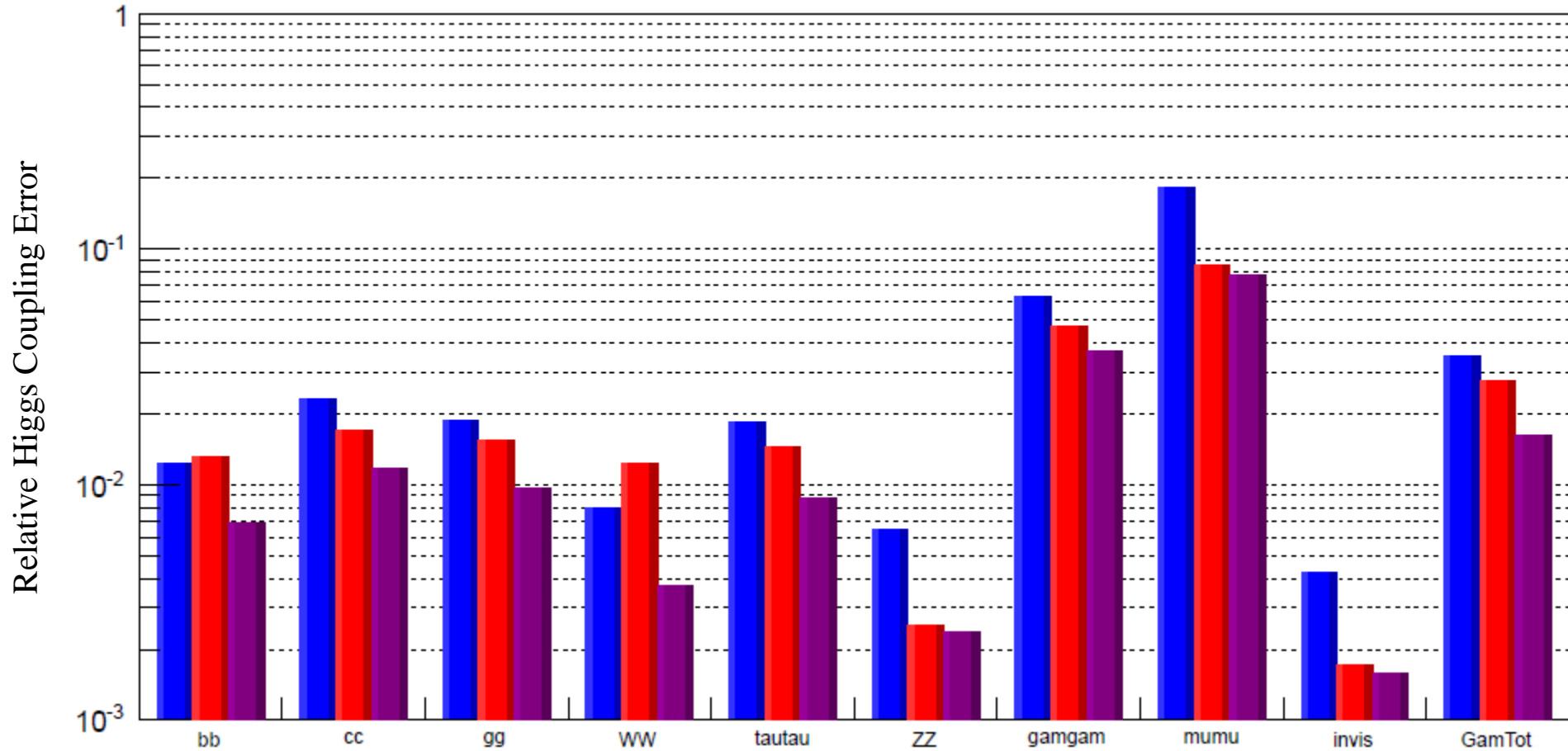


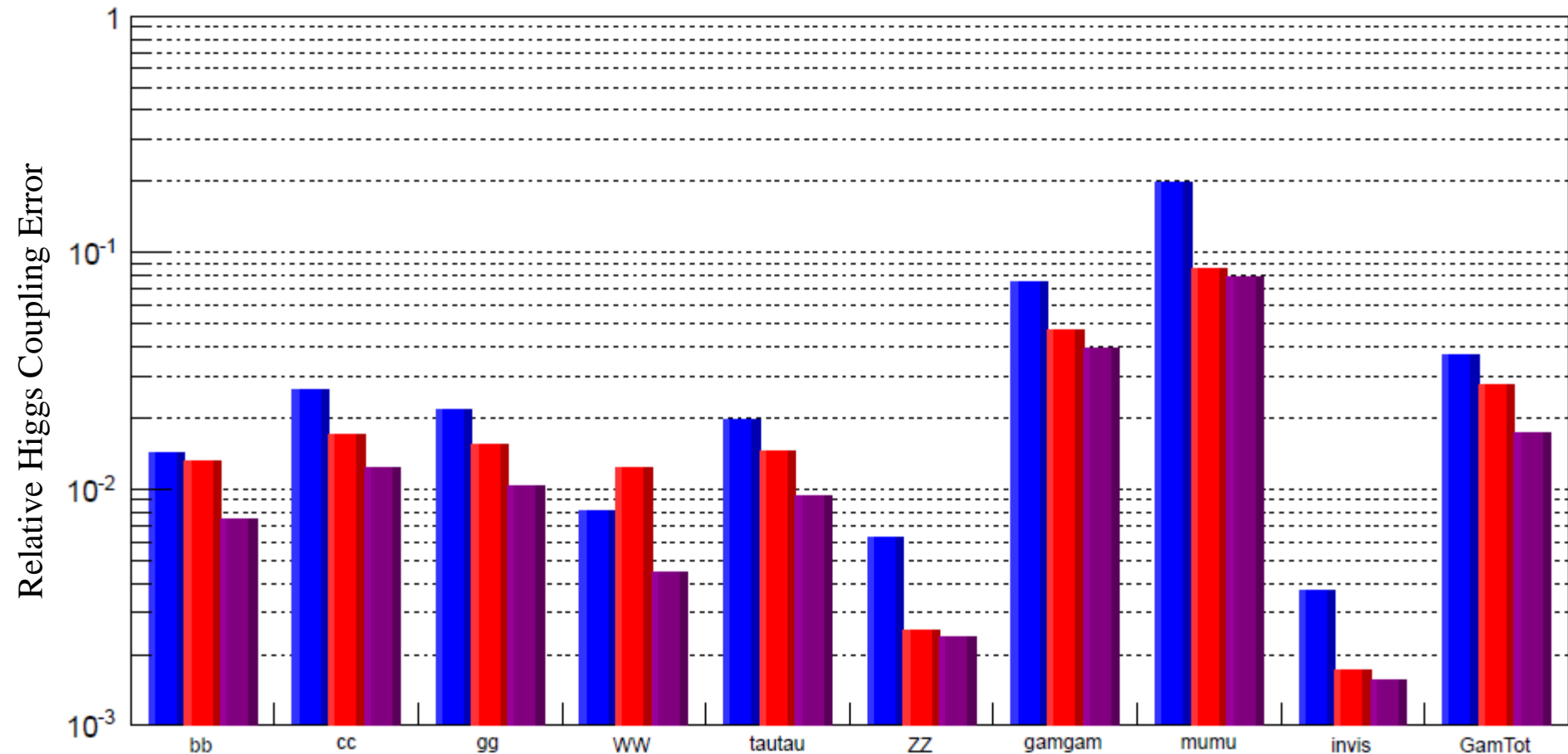
■ ILC 250+350+500 GeV with 500+200+1000 fb⁻¹ (G-20 scenario just before lumi upgrade ⇒ 9.8 yrs)

■ CEPC 250 GeV with 5000 fb⁻¹

■ ILC + CEPC under the conditions listed above



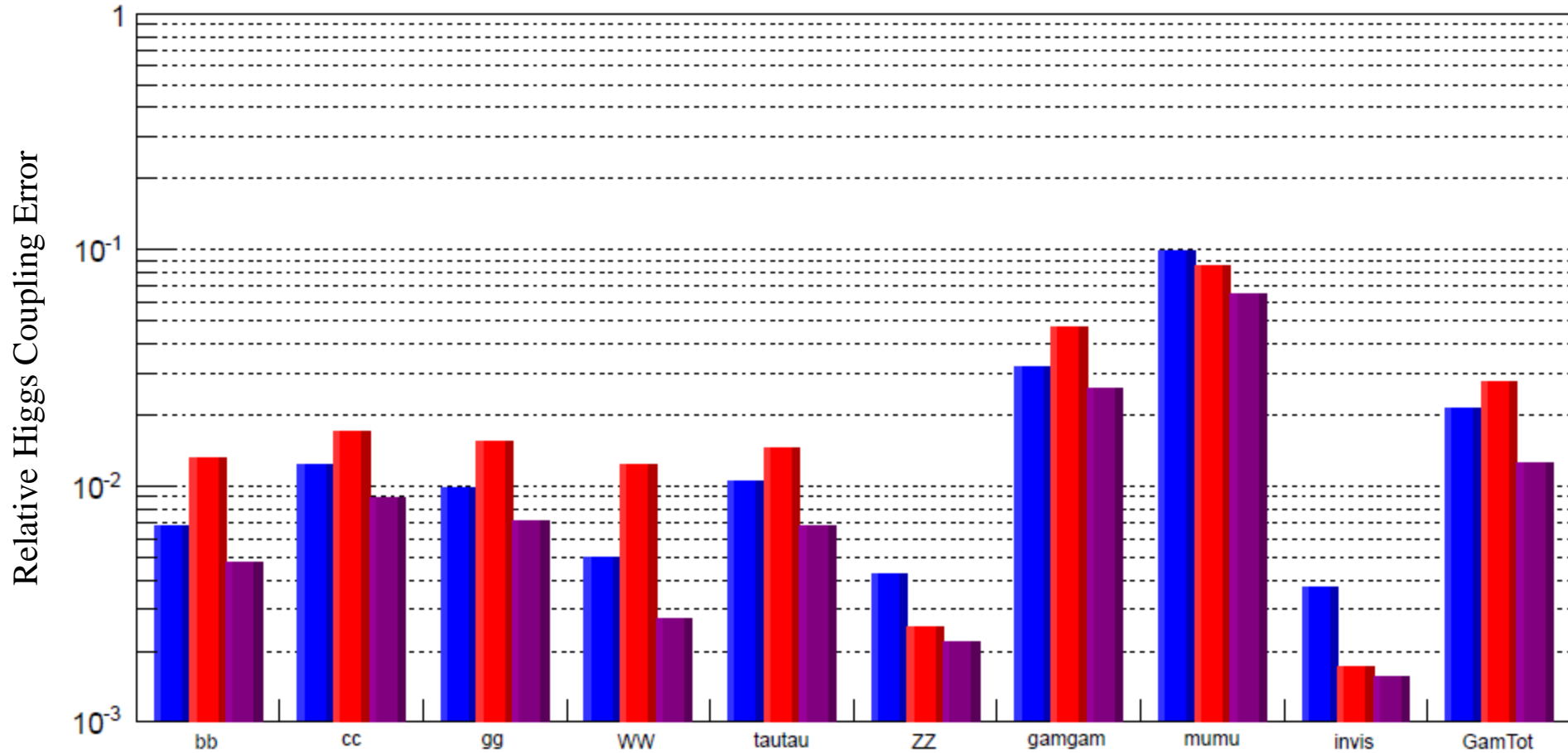
- ILC 250+350+500 GeV with 500+200+500 fb⁻¹ (H-20 scenario just before lumi upgrade ⇒ 8.1 yrs)
- CEPC 250 GeV with 5000 fb⁻¹
- ILC + CEPC under the conditions listed above



■ ILC 250+350+500 GeV with 500+200+5000 fb⁻¹ (G-20 scenario full run ⇒ 19.7 yrs)

■ CEPC 250 GeV with 5000 fb⁻¹

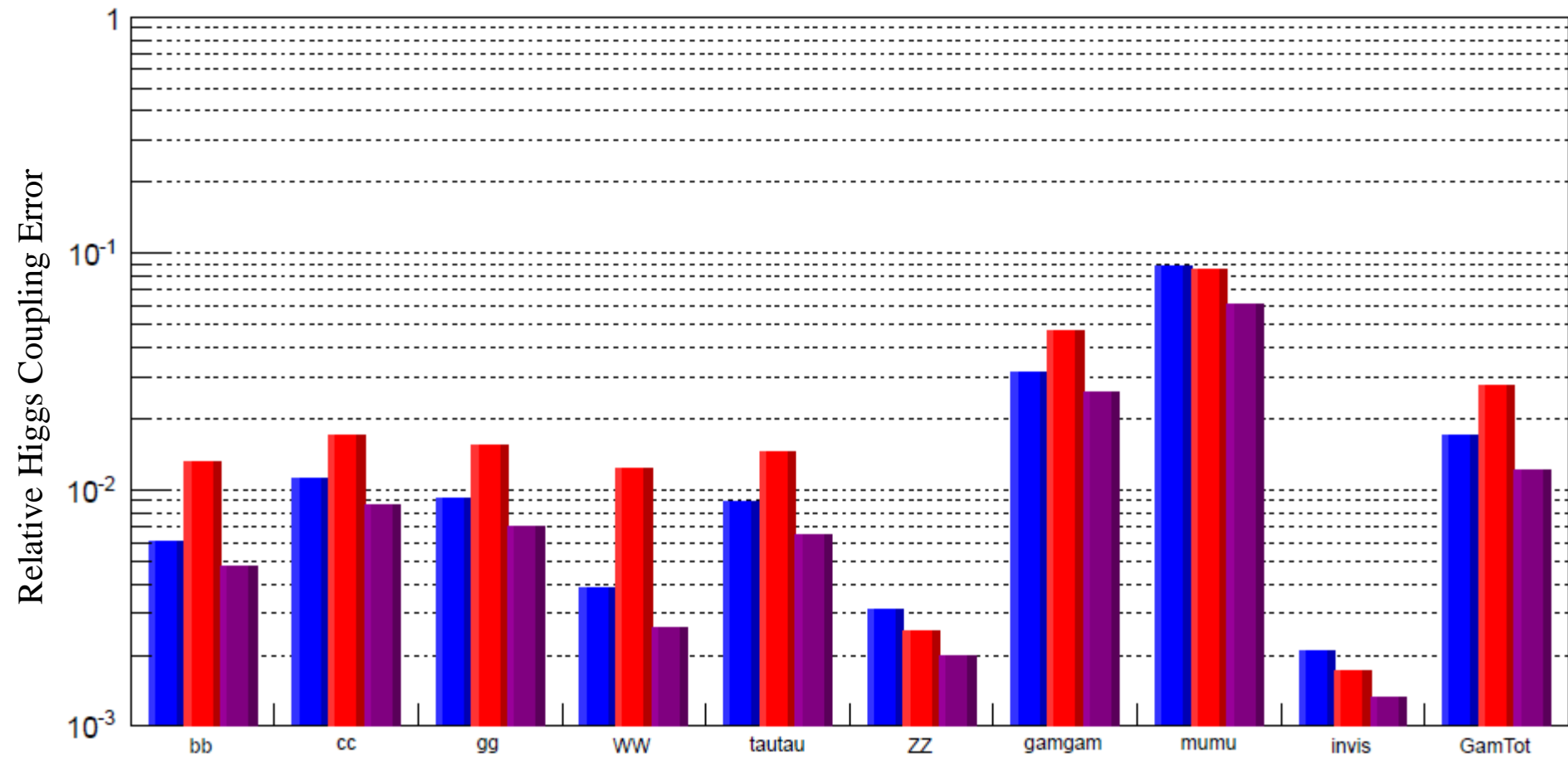
■ ILC + CEPC under the conditions listed above



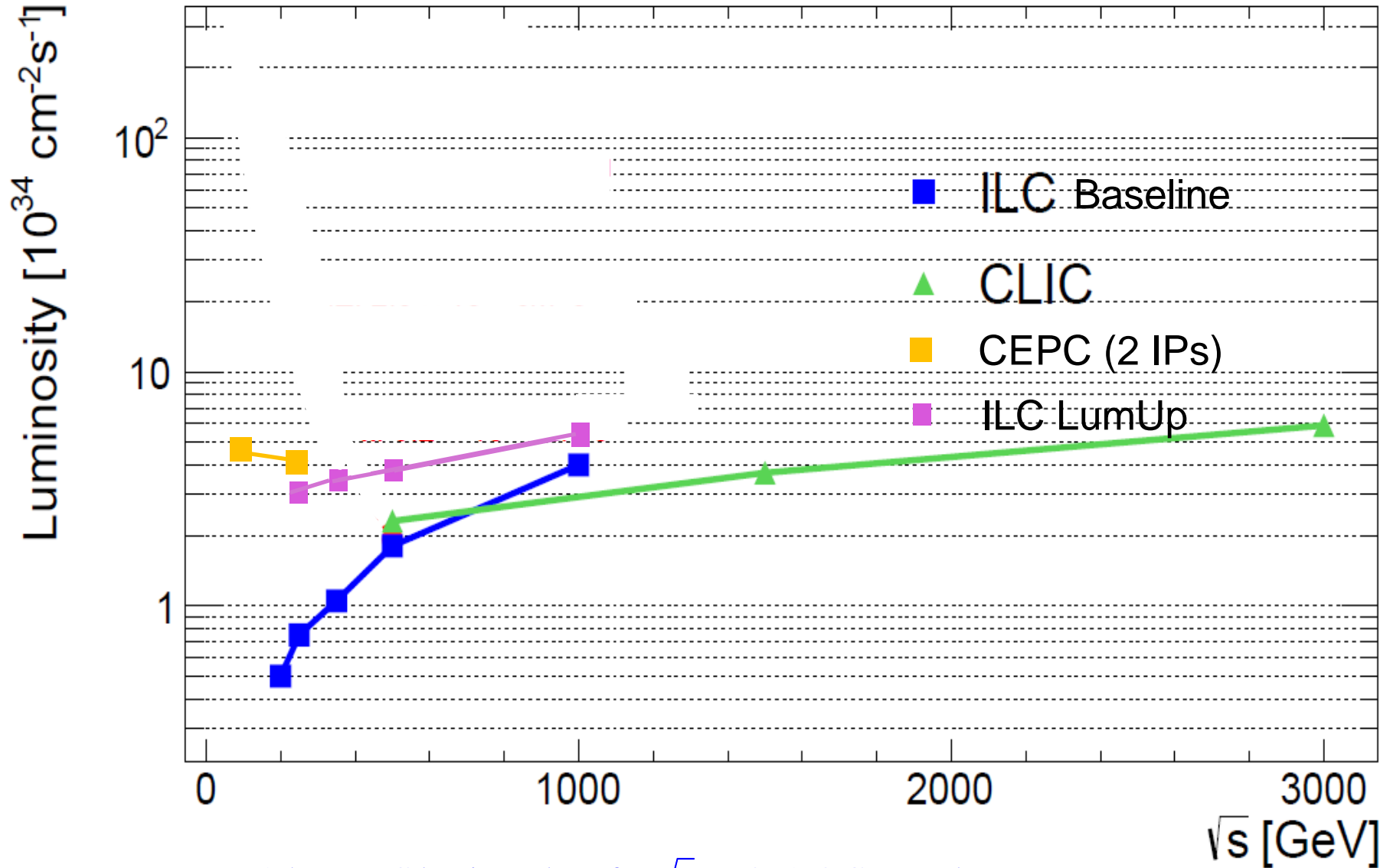
■ ILC 250+350+500 GeV with 2000+200+4000 fb⁻¹ (H-20 scenario full run ⇒ 20.2 yrs)

■ CEPC 250 GeV with 5000 fb⁻¹

■ ILC + CEPC under the conditions listed above



$$\sqrt{s} = 90, 160, 350 \text{ GeV}$$



Don't have ILC lumi numbers for $\sqrt{s} = 90, 160$ GeV at the moment.

Whatever they are they will be substantially less than CEPC's .

Appendix 3 of CEPC-SPPC Preliminary Conceptual Design Report IHEP-AC-2015-01

Table A3.2: CEPC collider parameters for running at Z energy

Parameter	Unit	Value
Beam energy [E]	GeV	45
No. of bunch trains		64
No. of bunches per train		28
Spacing of bunches in train	m	1.384
Luminosity	$\text{cm}^{-2}\text{s}^{-1}$	2.27×10^{34}
Beam current	mA	223
S.R. power per beam	MW	13.4
Particles per bunch		1.4×10^{10}
Beta function at IP, horizontal	m	0.692
Beta function at IP, vertical	m	0.003
Beam emittance, horizontal	m-rad	16×10^{-9}
Beam emittance, vertical	m-rad	1.4×10^{-10}
Beam size at IP, horizontal	μm	105
Beam size at IP, vertical	μm	0.65
Energy spread dE/E		0.5×10^{-3}
Crossing angle at IP (per beam)	mrad	0.8
Beam-beam parameter, horizontal		0.044
Beam-beam parameter, vertical		0.031
Momentum compaction (arc super period)		-3.34×10^{-5}
Energy loss per turn	MeV	59.55
Length of arc cell	m	94.4
Field of electrostatic separator	MV/m	35
Length of electrostatic separator	m	5
DC voltage of separator	kV	110

$$\sqrt{s} = 90, 160, 350 \text{ GeV}$$

ILC may be competitive for some measurements at $\sqrt{s} = 90, 160 \text{ GeV}$ through higher ILC beam polarization (like SLC was competitive with LEP). Otherwise, CEPC will dominate the Z-Pole and WW threshold measurements, and ILC will contribute to electroweak precision observables through the top quark mass measurement at $\sqrt{s} = 350 \text{ GeV}$.