IR issues	JLC	NLC	tools	R&D other choices
Pair background	VTX: 3.6hits/mm^2 /train by "electrons" at r=2.5cm CDC: 100hits /pulse by "photons" at Ecm=500GeV	VTX: 5-10 hits/mm^2/train at r=1cm CDC: 3x10^4 photons/pulse no gas chamber allowed at Ecm=1TeV This result may be consistent with JLC because of "photon conversion" in the chamber and its higher beam energy.	ABEL,CAIN, Guinea-Pig GEANT,EGS	Detailed geometry at IP Tolerable background hits: VTX: < 1hit/mm^2/train CDC: occupancy < 1% radiation damage? need cross check with common background-rays and geometries. Comparison between ABEL, CAIN and Guinea-Pig.
neutron backgrounds from pairs, (disrupted beam and beam dump)	10^6 n/train (n/E_e=0.13/GeV)	VTX:3x10^{-3}hits/cm^2/train corresponds to 10^{7}hits/cm^2/year	GEANT	Tolerable background hits: CCD/VTX <3x10^9 hits/cm^2 so, no problem.