ILC - Tunnel Specification Sheet (DRAFT)

SLAC, Apr 18, 2006 DRAFT

ELECTRON SOURCE

BEAM TUNNEL

(BASIS OF CURRENT BEAM TUNNEL CROSS SECTIONAL LAYOUT)

System / Component Description		Floor Size (WxLxH) (meters)		Source of Information- Comments
e- Pre-Gun 1		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun 1
e- Pre-Gun 2		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun 2
e- Gun 1 & Drive Laser		6.2 x 8 x H		Axel- Loadlock,Diagnostic Dump
e- Gun 2 & Drive Laser		6.2 x 8 x H		Axel- Loadlock,Diagnostic Dump
e- 12 MeV Bunching 1		4.5 x 9 x H		Axel- 2 NC WG Getaways
e- 12 MeV Bunching 2		4.5 x 9 x H		Axel- 2 NC WG Getaways
e- 70 MeV Pre-acceleration 1		4.5 x 10 x H		Axel- 4 NC WG Getaways
e- 70 MeV Pre-acceleration 2		4.5 x 10 x H		Axel- 4 NC WG Getaways
e- Doglegs, Dumps & Wye		4.5 x 25 x H		Axel- Worker Shielding Isolation Separation Tune-Up Dumps
e- 5.5 GeV Pre-accelerator		4.5 x 286 x H		Axel- Diagnostic Dump, 21 Cryomodules
e- Source to e- Damping Ring Transfer Line		4.5 x 50 x H		Axel- Tuning Dump, Spin Rotator
e- Aux-Pre-Gun		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun
e- Aux Gun & Drive Laser		6.2 x 8 x H		Axel- Loadlock,Diagnostic Dump
e- Aux Gun 12 MeV Bunching		4.5 x 9 x H		Axel- NC WG Getaways
e- Aux Gun 70-100 MeV Pre-acceleration		4.5 x 12 x H		Axel- NC WG Getaways
e- Aux Gun Pre/Post-Accelerator Transition		4.5 x 10 x H		Axel- Diagnostic Dump, Matching Section, N-S Xfer
e- Aux Gun 500 MeV Post-accelerator		4.5 x 27 x H		Axel- 2 Cryomodules
e- Aux Gun Source to e+ KAS Transfer Line		4.5 x 10 x H		Axel- S-N Xfer, E Collimation, Diagnostics Dump

SERVICE TUNNELS

(BASIS OF CURRENT SERVICE TUNNEL CROSS SECTIONAL LAYOUT)

System/Component Description		Floor Size (WxLxH) (meters)		Source of Information-Comments
e- Pre-Gun 1 Service Area		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun 1, injector system controls, power supplies, racks, staging area, cooling, AC Pwr
e- Pre-Gun 2 Service Area		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun 2, injector system controls, power supplies, racks, staging area, cooling, AC Pwr
e- Guns 1&2 & Drive Lasers		3 x 8 x H		Axel- Service Area Bypass Passage to Bunching
e- 12 MeV Bunching 1&2		12 x 9 x H		Axel- 2 NC WG, 2 Klys, 1 Mod, 1 Mod PS, Buncher Mag PS's, Racks, Cooling AC Pwr
e- 70 MeV Pre-acceleration 1&2		22 x 10 x H		Axel- 4 NC WG, 4 Klys, 2 Mod, 2 Mod PS, Mag PS's, Racks, cooling, AC Pwr
e- Doglegs, Dumps & Wye		4.5 x 25 x H		Axel- Worker Shielding Isolation Separation & Tune-Up Dumps
e- 5.5 GeV Pre-accelerator		4.5 x 286 x H		Axel- 8 Klys, 7 Mod, 7 Mod PS, Mag PS's. Racks, cooling, AC Pwr
e- Source to e- Damping Ring Transfer Line		4.5 x 50 x H		Axel- Tuning Dump, SC Spin Rotator, cooling, AC Pwr

e- Aux-Pre-Gun		6.2 x 50 x H		Axel- 24/7 access, internal modular clean room w/laser table, shielding door to gun, injector system controls, power supplies, racks, staging area, cooling, AC Pwr
e- Aux Gun & Drive Laser		3 x 8 x H		Axel- Service Area Bypass Passage to Bunching
e- Aux Gun 12 MeV Bunching		12 x 9 x H		Axel- 1 NC WG, 2 Klys, 1 Mod, 1 Mod PS, Buncher Mag PS's, Racks, Cooling AC Pwr
e- Aux Gun 70-100 MeV Pre-acceleration		4.5 x 12 x H		Axel- 2 NC WG, 2 Klys, 2 Mod, 2 Mod PS, Mag PS's, Racks, cooling, AC Pwr
e- Aux Gun Pre/Post-Accelerator Transition		4.5 x 10 x H		Axel- Diagnostic Dump, Matching Section, N-S Xfer
e- Aux Gun 500 MeV Post-accelerator		4.5 x 27 x H		Axel- 2 Klys, 2 Mod, 2 Mod PS, Mag PS's. Racks, cooling, AC Pwr
e- Aux Gun Source to e+ KAS Transfer Line		4.5 x 10 x H		Axel- S-N Xfer, E Collimation, Diagnostics Dump, cooling

ELECTRON SOURCE						
Components	Quantity	Location	Load KW	Connected Load (KW)	Voltage	Source
Total			0.00	0.00		

POSITRON SOURCE						
Components	Quantity	Location	Load KW	Connected Load (KW)	Voltage	Source
Total			0.00	0.00		

ELECTRON SOURCE

Components	Quantity	Location	Total Heat Load (KW)	To Deionized Water					To Air		
				Heat Load to Water (KW)	Supply Temp (C)	Return Temp (C)	Typical (water) pressure drop Bar	Acceptable Temp Variation delta C	Heat Load to Air (KW)	Max Space Temp (C)	
Total			0.00	0.00					0		

POSITRON SOURCE

Components	Quantity	Location	Total Heat Load (KW)	To Deionized Water					To Air		
				Heat Load to Water (KW)	Supply Temp (C)	Return Temp (C)	Typical (water) pressure drop Bar	Acceptable Temp Variation delta C	Heat Load to Air (KW)	Max Space Temp (C)	
Total			0.00	0.00					0		