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**CHANGE
REQUEST
NO. ILC-CR-NNNN**

EDMS No:
D*0XXXXXX

Created: **27-11-2018**

Last modified: **26-12-2018**

[ORIENTATION OF ELECTRON/POSITRON LINACS]

In the schematic layout of the ILC complex shown in TDR (Figure 2.1, TDR Volume 3.II), the electron linac is on the left side and the positron linac on the right side with the damping ring on the upper side as shown in Figure 1. The present change request is to flip the two main linacs, i.e., the electron- and positron-linac is on the right side and on the left side, respectively, with the damping ring on the upper side as shown figure 2.

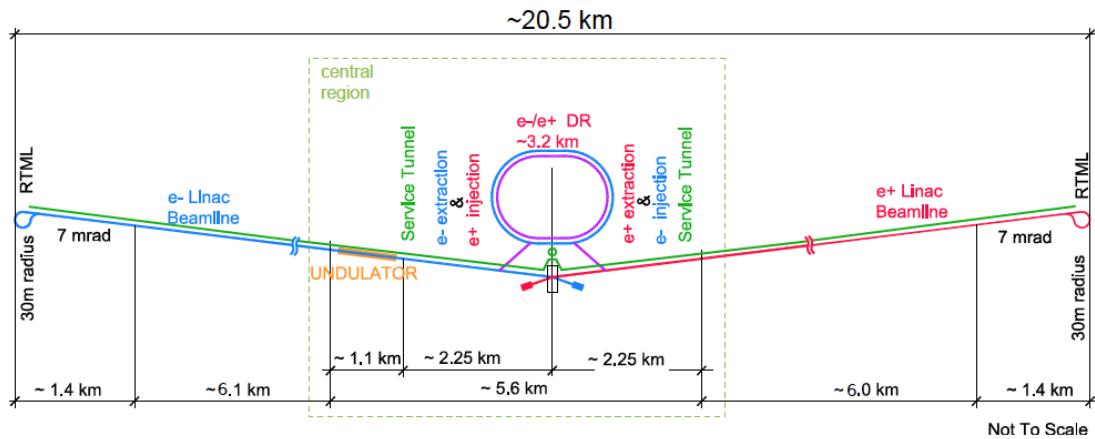


Figure 1. Schematic layout of the ILC shown in TDR, but in the 250 GeV configuration.

[Few sentences describing the main subject of the change request]

RATIONALE

The proposed site in Kitakami area is a granite area which is long in the north-south direction, therefore the main linac is to be constructed in the north-south direction. Since the elevation tends to be lower in the west side, all the portals of the access tunnels, as well as the damping ring, should be on the west side of the main linacs to minimize the total length of the access tunnels. Since the elevation tends to be higher in the north compared to the south, and the arrangement of the utility caverns is not symmetrical with respect to the interaction point, the total length of

access tunnels can be minimized by flipping the electron- and positron linacs. The current siting study suggests the total length of access tunnels would be minimized if the electron linac is on the north side and positron on the south side.

Our geological survey shows we can expect nice and uniform geological condition within a few kilometres from the candidate site for the interaction point. The damping ring, therefore, can be constructed on either side of the interaction point from the viewpoint of the geological condition.

This flipped layout is consistent with a possible future upgrade to the 31km/50km long machine (500GeV/1TeV machine with the current SRF design).

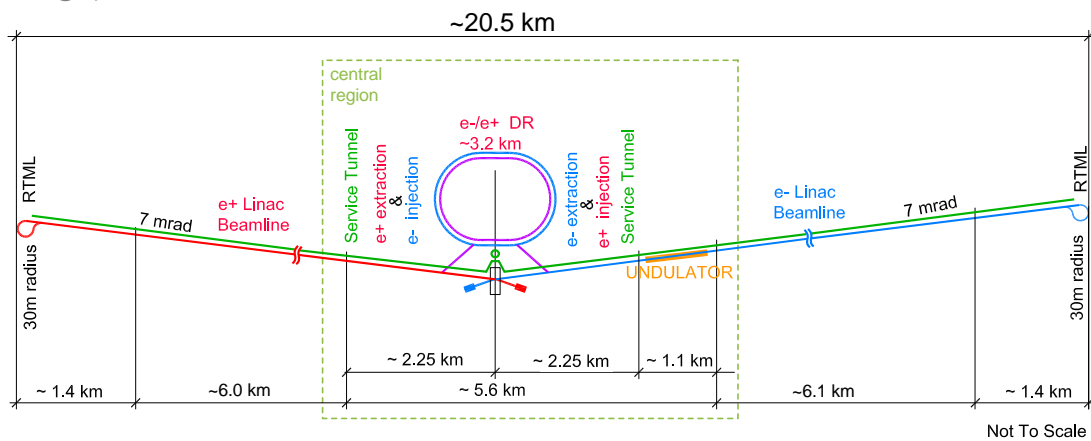


Figure 2. Schematic layout of the proposed ILC in the 250 GeV configuration.

[Outline briefly as possible the main reasons for requesting the change]

SCOPE: [list of WGs or areas affected]

[Brief description of the overall scope of the modifications being proposed, including possible impact on other areas]

This change would not affect the current lattice design but should introduce the new coordinate system. All the drawings and lattice file would need to be rewritten with the flipped coordinate system.

VALUE/SCHEDULE IMPACT

[Brief explanation of the estimated value figure if available. Also if know, impact on construction schedule. Value should also include



explicit labour if possible]

The proposed arrangement of the accelerator complex is the ideal design, which minimize the value and construction period as long as Kitakami is assumed to be the construction site.

Requested and prepared by:

Your name

Figure 3.



Attachments:

Number:	modified:	by:
1	[Add title of attached documents (see here) if any]	
2		
...		

Change History:

Version:	modified:	by:	what:
1.0			



IMPLEMENTATION PLAN

Can be left blank for first submission.

Concerned Parties (Work Packages, Coordinators, Suppliers etc.)

WF/Area	

Affected documents

EDMS ID	Title	Remark



ATTACHEMENT 1

[Place additional document here as needed. This can be used for adding a more detailed description of the CR]