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Guideline for the definition of a Letter of Intent to express an interest to design and engineer a detector at the International Linear Collider

The purpose of this draft document is to define more precisely the letters of intent (LOIs) for detectors at the ILC.

With the LOI a group expresses its interest to develop a design for a detector at the ILC. LOIs will form the basis on which two groups will be invited to further develop and detail their plans and eventually submit an engineering design report, EDR.

The LOI should contain information on the proposed detector, its overall philosophy, its sub-detectors and alternatives, and how these will work in concert to address the ILC physics questions. The evaluation of the detector performance should be based on physics benchmarks, some of which will be the same for all LOIs based upon an agreed upon list and some which may be chosen to emphasize the particular strengths of the proposed detector. It should contain a discussion of integration issues with the machine. It should be developed enough to allow a first preliminary assessment of civil engineering issues like interaction hall, support halls etc. It should enable the reader to judge the potential of the detector concept and to identify the state of technological developments for the different components. Alternative technological options should be elaborated. Where needed, areas of further research and development should be identified, together with timelines and milestones. The group submitting the LOI should define its position and role in the ongoing international research and development for a detector at the ILC. The LOI should include a preliminary cost estimate for the detector. The overall length of the LOI should not exceed 100 pages.

The LOI can, but need not, refer to other documents where more technical details are given. If so these documents should be submitted together with the LOI.

In addition to a concise technical description of the proposed detector the LOI should present the structure of the group which is proposing the detector. The resource needs and their evolution in time should be presented. The LOI will not represent any formal commitment of the groups signing it to the project or the proposed detector. It should however enable the reader to judge the capacity and the seriousness of the groups to carry out the work until the EDR.