**SLAC National Accelerator Laboratory**

**FACET-II PROPOSAL**

Date:

**A. EXPERIMENT TITLE:**

**B. PROPOSERS & REQUESTED FACILITY:**

|  |  |
| --- | --- |
| Principal Investigator: |  |
| Institution: |  |
| Contact Information: | Phone: Email: |
| Experiment Members: |  |
| Collaborating Institutions: |  |
| Funding Source (optional) |  |
| Approximate Duration: |  |

**C. EXPERIMENT:**

1. Science justification (one paragraph).
2. Description of science goals (~ 1 page). For each goal, indicate the approximate timeline (e.g. 6 months into experiment, 1 year, 3 years etc.) and define success.
3. Beam parameters needed based on the table below. This helps assess the appropriateness of the facility requested.
4. A concise statement defining overall success of the experiment to help the facility director and the program advisory committee judge progress.
5. Potential future evolution of the experiment (one paragraph)

**D. Experimental Apparatus:**

Give a description of the experimental apparatus (approximate maturity level expected is 30%), including as appropriate:

* + - Sketch of the planned layout with dimensions
    - Diagnostics required and expected observables
    - Facility hardware/capabilities that are required
    - Description of the DAQ system coming with the experiment and what additional DAQ will be needed from SLAC
    - Other electronics components (HV supplies, scopes, etc.)
    - Cooling or gas supply needs
    - Radioactive sources
    - Computing infrastructure needs
    - Any other aspect which might be of importance
    - Support needed from SLAC: riggers, technicians, DAQ systems, cooling, gas lines, etc.

**E. EXPERIMENT LOGISTICS:**

Give details of the logistics for the experiment, including as appropriate:

* Space Requirements (include sketch)
* Special Requirements (vacuum, cooling water, gasses, electricity, magnets, detectors, etc)
* Estimated timeline to complete planning and be ready for installation
* Estimated duration for installation effort
* Duration of Test and Shift Utilization
* Desired Calendar dates
* Any other aspect of Importance

**USEFUL FACILITIES INFORMATION**

(do not include in proposal)

**A. Proposal Submission:**

Go to <https://facet.slac.stanford.edu/proposals>   
for information on how to submit proposals and for contact information.

**B. FACET-II Parameters:**

|  |  |
| --- | --- |
| **Electron Beam** | |
| Beam Type | e- |
| Beam energy (GeV) | 10 |
| Repetition Rate (Hz)  (range) | 10  1 - 30 |
| Bunch Charge (nC)  (range) | 2  0.5-3 |
| Bunch Length (** , **m)  (range) | 20  1-100 |
| Beam Spot size (** , **m)  (range) | 10  5-200 |
| **Experimental Laser** | |
| Pulse Energy (µJ)  (range) | 300  10-800 |
| Pulse Duration (fs)  (range) | 70  50-500 |