Status Report for February 2006

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Monthly budget, schedule and technical status report for the Memorandum of Understanding between SLAC and UCLA titled:

**Technical Addendum D to the Memorandum of Understanding between the Stanford Linear Accelerator Center and the University of California at Los Angeles**

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# Budget and Schedule Status

## *WBS Task Deliverable Reporting*

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The WBS task deliverables and budget are defined by the MOU as shown in table 1.

| WBS Number | Task Deliverables | Fund Type | Budget (K$) | EDIA (K$) | M & S (K$) |
|---|---|---|---|---|---|
| 2.1.1.8 | FEL Physics Analysis | R & D | 173.7 | 155.5 | 18.2 |

Table 1 WBS Deliverable Definition

Progress on each WBS task for the reporting month **January, 2006** is shown in table 2.

| WBS Number | Task Deliverables | % Task Complete | % Budget Used | Scheduled Completion Date | Expected Completion Date |
|---|---|---|---|---|---|
| 2.1.1.8 | FEL Physics Analysis | 15 | 100 | Sep 2006 | Sep 2006 |

Table 2 WBS Deliverable Status

The above February numbers are calculated with respect to last year's budget. So far UCLA has not received any money according to the new MOU.

# Technical Status and Planning for 2.1.1.8

## *This Month*

Work has been done to rerun full time-dependent simulations with an updated wakefield model, where the resistive wall wakefield is modeled by a composite of a beampipe radius of 2.5 mm, weighted by 66% and an radius of 5 mm, weighted 5.0 mm. In addition the effect of higher mode evolution in a LCLS like configuration of an X-ray FEL has been studied with respect to its dependence on the average beta-function and the cell length of the FODO lattice. The study was performed in context of the theoretical limitation of beam conditioning schemes.

## *Next Month*

- Conclude the study on emittance compensation schemes for LCLS
- Calculation of spontaneous radiation distributions and spectra for LCLS