

Minutes of the LCLS BLM Simulations Working Group

January 9, 2008

Attendees/Argonne: J. Dooling B. Yang; /SLAC: A. Fasso, H.-D. Nuhn, M. Santana.

Notes:

HDN—MARS modeling should start at the beginning of the undulator. Look at displacements of the beam centroid in the first quad. Use x- and y-offsets of 30 μm to look at losses along the undulator.

MS—question of radiator geometry; also location. What will be the position of the radiator in z? Case geometry: should be 0.35 in on either side of the 0.3-in radiator for total thickness (radiator + case) of 1.00 in.

Question of thickness of shower enhancer; will this yield an improvement in signal?

AF—Simulation; cutoff energy of neutrons (FLUKA, high cut-off). Japanese insist neutrons are the cause of damage to the undulators.

JD—Lost consulting support for MAD-MARS Beamline Builder (MMLB). Will directly enter geometry into MARS. Received 2-D OPERA quad field files (4.5 A and 6.0 A). No results yet.

Three defined simulation tasks:

1. Complete LCLS undulator geometry entry including quadrupole fields.
2. Use equivalent 1- μm Al foil to initiate shower for calibration. Begin with foil 30 m upstream of the first quad.
3. Without foil, look at loss and transmission of the beam for the following offset cases:

x_o (μm)	y_o (μm)
0	0
30	0
0	30
30	30

Use beam energies of 4.5 GeV and 13.6 GeV

The next meeting is scheduled for Wednesday January 16, 2008, 4:30 PM CST.