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Proposal for Accelerated Funding for ATLAS TileCal Optical Installation Fixtures

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1. Optical Installation Fixtures - WBS 1.4.2.3.3

The optical installation fixtures include the stands that will support the TileCal EB modules while the scintillator and WLS fibers are inserted and the completed module is made light-tight and tested. In addition, at MSU, a special transporter will be needed to move the modules between the installation stands and the loading/unloading pad where the modules are placed in the shipping containers. Our plan is to use an air-pad system for this transporter. The stands and transporter must be designed as a system to insure easy and safe transfers of the modules between these fixtures. We currently have a conceptual design that we believe will meet these requirements, as shown in Fig. 1.

2. The Case for Accelerated Funding

The schedule for the production of Tilecal modules has the optical installation of modules beginning in mid-1999. We would like to allow approximately one year for completing the design and fabrication of the stands and transporter, implying that this task should begin in FY1998. However, in the preparing the budgets, we were also confronted by the need to begin the manufacture of the Tyvek sleeves for the scintillating tiles to match the tile production that begins in the first quarter of 1998. Essentially all of the FY98 project and infrastructure funds were required for that purchase. For that reason, further work on the construction of the installation fixtures was postponed until FY99.

The construction of the optical installation fixtures at ANL is not considered to be a problem. They will be using gantry cranes in their assembly area and will not require a special transporter. However, the risk of delays in beginning optical installation on schedule at MSU would be considerably reduced if the transporter could be constructed and tested in FY98. We therefor propose that funds for the components and assembly of the transporter be moved from FY99 to FY98. Table 1 lists the estimated costs.

Table 1. Estimated Costs for Module Transporter (WBS 1.4.2.3.3.2.2)

Description	BOE	Cost ($K)
Air Pad Rig Set	Phone Quote	5.8
Air Compressor (rebuilt)	Phone Quote	10.0
Air Motor Drive	Phone Estimate	5.0
Structural components	Physicist Est.	5.0
100 hr. Shop Labor, Component Fabrication	Physicist Est.	2.5
100 hr. Mech. Tech. Labor, Assembly and Supervisor	Physicist Est.	3.0
300 hr. Student labor	Physicist Est.	3.8
Total		35.1

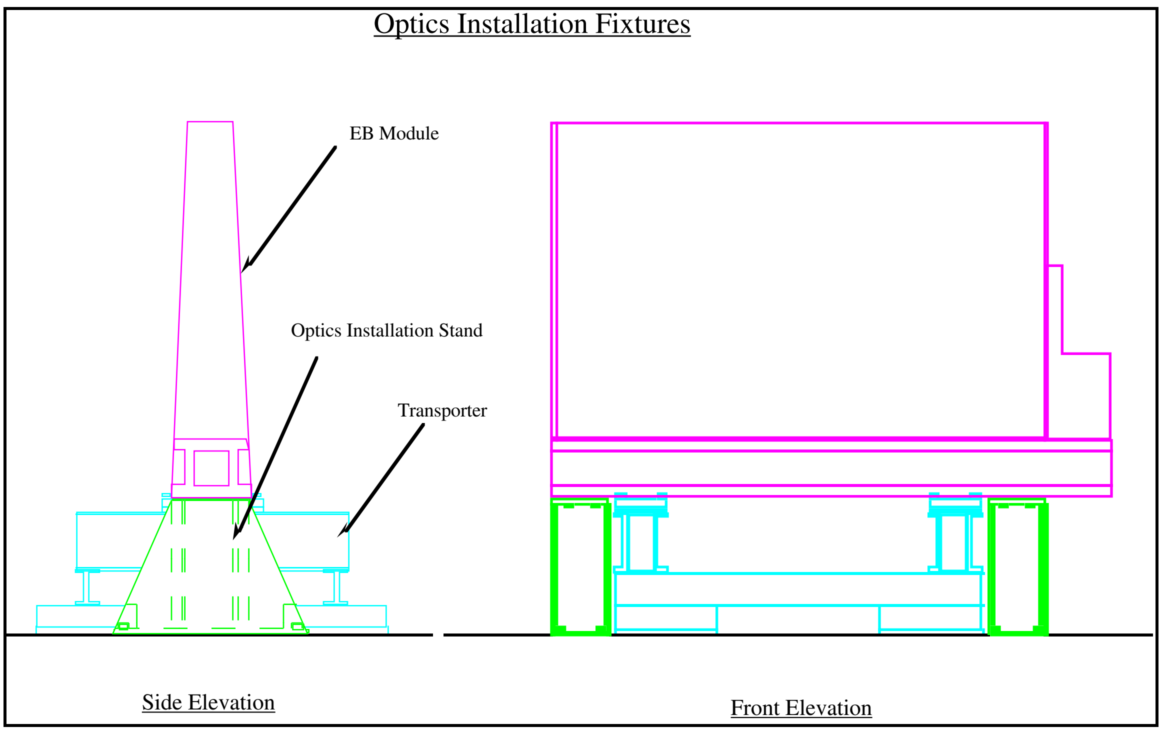

Figure 1. A conceptual design of the optical installation fixtures at MSU. The optics installation stands are bolted to the floor. The EB module is bolted to either the stands or transporter. The transporter lifts the module using an air pad system and is moved with an air motor drive.