

MIT LIGO Budget and Workplan

David Shoemaker
20 March 96

Process

- top-level discussion of long-term principal responsibilities
 - > interferometer subsystems
 - > R&D goals
 - > project roles
- technical planning
 - > integrated with planning at Caltech
 - > cost, schedule, personnel as for CIT-based efforts
- proportional allocation of capital equipment, operations
- travel to support activities
- leads to annual proposal, modifications as needed

Responsibilities

- Weiss (PI) has responsibility for MIT program
- Shoemaker acts as 'project scientist' in NASA paradigm
 - > assembly of proposal, negotiation of details
- task leaders take responsibility for their projects

Staffing

Global Project Functions: 2 Scientist FTE

- 1.0 Weiss (BT Cognizant Scientist; Sys Int Scientist)
- 0.5 Zucker (VE Cognizant Scientist)
- 0.5 Shoemaker (Deputy Detector Group Leader/MIT Lab Ops)

Detector R&D: 2.25 [3.25] Sci, 5 Grad, 0.5 Eng, 1.0 Tech

- 0.5 Fritschel (PNI leader)
- 0.75 Gonzalez (PNI)
- 1.0 Sigg (Wavefront/Centering R&D)
- 0.5 Burgess (EE)
- 1.0 Kruzel (Tech)
- [1.0 Postdoc (PNI, YAG conversion)]

Detector Implementation: 1.75 Sci, 0.5 [1.5] Eng

- 0.5 Zucker (ISC Task Group Leader)
- 0.5 Fritschel (ASC Subsystem Leader)
- 0.25 Gonzalez (ASC)
- 0.5 Shoemaker (Detector Systems)
- 0.25 Tappan (ASC Optlev engineering)
- [1.0 Engineer (ISC)]

Infrastructure: 1.2 sec/admin, 1.0 technical

- 0.6 Richard/0.6 Plummer (secretary/administration)
- 0.5 Evans (computer), 0.5 Evans (tech. specialist)

Budget by Category

salaries (206 mm)	692
benefits	305
subcontracts	59
materials and services	131
travel	95
capitalized equipment	105
indirect cost	658
TOTAL	2,045

Budget by work breakdown (loaded)

Management	
System Integration	58
Detector/Lab	115
Detector Implementation	
LSC	116
ASC (39 MM salary)	433
COC	35
Detector R&D	
Lab Ops (with travel)	292
PNI	345
FMI	127
Misc (Optics model)	99
PEM	(0)
Facilities	
Beam Tube	79
Vacuum Equipment	78
Infrastructure	
Admin/sec	148
Computing	119

Accounting

Parallel cost accounts to LIGO Caltech

- single subcontract
- allocated to child accounts at MIT
- reported back and allocated to LIGO Caltech cost accounts

CSR provides bookkeeping, purchasing, administration

- connection to MIT accounting
- preparation of monthly reports

Cost and schedule tracking

- tracked by task/group managers at MIT and CIT
 - > most accounts have activity at both campuses
 - > MIT input several months late (timing)
- costs presently dominated by salaries
- thus, primary measure is meeting plan (milestones)

Milestones for FY 96

Length/Alignment tasks:

- Phase Noise R&D
 - > completion of recycling with Argon laser source
 - > completion of conversion to Nd:YAG laser
- Alignment R&D
 - > completion of verification of wavefront sensing/centering
- LSC (Length Sensing/Control interferometer subsystem)
 - > Design Requirements Review (DRR) 4/96
 - > Preliminary Design Review (PDR) 10/96
- ASC (Alignment Sensing/Control interferometer subsystem)
 - > DRR2 6/96
 - > PDR 11/96

PEM (Physics Environmental Monitor)

- > DRR 5/96

Detector System

- > DRR 5/96

Vacuum Equipment

- > FDR (Final Design Review) 5/96

Beam Tube

- > DUR (Design Update Review) 3/96