Overview of Proposed Ohio State Participation

K.K. Gan
The Ohio State University

May 28, 2014

Introduction

- Successfully built two generations of array-based optical links (opto-boards)
  - 1st generation opto-boards built by OSU had failure rate of 0.1%
  - 2nd generation opto-boards:
    - 90% installed
    - production/installation proceeded smoothly
  - ⇨ propose to continue use of array-based solution for new pixel detector to satisfy space constraint
  - ⇨ funded by CDRD for 10 Gb/s VCSEL array driver development
    - funded by NSF/MRI to acquire $0.5 M of equipment
    - ⇨ well equipped to build high-speed optical links for HL-LHC
  - funded by three MRIs!
    - ⇨ should help future funding for new pixel detector by NSF

MRI

MRI

MRI

FY14 Opto R&D Personnel

		FTE
S. Smith	EE	0.40
J. Moore	EE	0.17
K.K. Gan	Physicist	0.20
R. Kass	Physicist	0.07
H. Kagan	Physicist	0.03
S. Che	Grad. student	0.20
A. Alvarez	Undergrad.	0.10

- will submit a renewal proposal for "CDRD" in a few months
- request US ATLAS support for FY15

Facility

- major equipment (mostly) funded 2 MRI awards:
  - high-bandwidth oscilloscopes
  - network analyzer
  - optical spectrum analyzer (OSA)
  - 2 probe stations
  - three automatic wire bonders, including ball/wedge capability
  - wire bond pull tester
  - precision vision measuring machine
  - high resolution infrared camera
  - fiber polisher/fusion splicer
  - humidity chamber
- physics department technicians/wire bonders ($40/hr)
- can help in the pixel module construction