

# Astro Projects Status

## December 2006

- Major Projects and Activities
  - SDSS – II
  - DES (Dark Energy Survey)
  - SNAP/JDEM
  - SDSS-GRID
  - SDSS-NVO
  - CDMS
  - Auger





# SDSS-II

- **Duration: 2005-2008**
- **Scope of work defined by SSP agreements**
  - **SSP 161 (DAQ upgrade)**
  - **SSP 240 (Data processing)**
    - **Includes Supernova work**
  - **SSP 261 (DAQ operations support)**
  - **SSP 268 (Data distribution)**



# SDSS-II Staffing

- **DAQ Upgrade**
  - 0.3 FTE from CEPA
- **Data Processing**
  - 2.5 FTE CPs (EAG)
  - 2 FTE Scientists (EAG)
  - 1 FTE postdoc (EAG)
- **Data Distribution**
  - 0.5 FTE CP(EAG)
  - 0.5 FTE Scientist (EAG)
  - 0.5 FTE from DBG
  - 0.3 FTE from CSI
- **DAQ Support**
  - 0.1 FTE CP (CEPA/EAG)
- **ARC Funds ~4.5 of the above FTEs**





# SDSS-II Current Status

- **DAQ - Upgrade nearing completion(?)**
- **Data processing**
  - More of the same, plus the supernova runs
  - Plan major upgrade to file server cluster
- **Data Distribution**
  - We are keeping up, but not all requested features or extra datasets are being provided
  - DAS - in process of rebuilding website
  - CAS - we are 1 step ahead of MS SQL limits



# DES (Dark Energy Survey)

- **Scope of Work: MOU with Fermilab, NOAO, U. Illinois in progress**
- **Schedule**
  - **Construction 2005-2009**
  - **Integration at CTIO June 2009**
- **Activities (EAG responsibilities only)**
  - **Survey Planning**
    - **Develop DES proposal**
    - **Mock data challenges**
    - **Develop, manage code for data analysis**
  - **Instrument Development**
    - **Support CCD testing**
    - **Evaluate System Integration Design (the DAQ system)**
  - **Website development**
  - **Optics**



# Current Staffing

- **0.6 FTE CP from EAG**
  - (Part of activity is credited under "SDSS-Grid")
- **1.7 FTE Scientists from EAG**
- **.08 FTE from CEPA (System Integration Design) (requested)**
- **.04 FTE from CSS (databases)**
- **.04 FTE from CCF (dCache)**

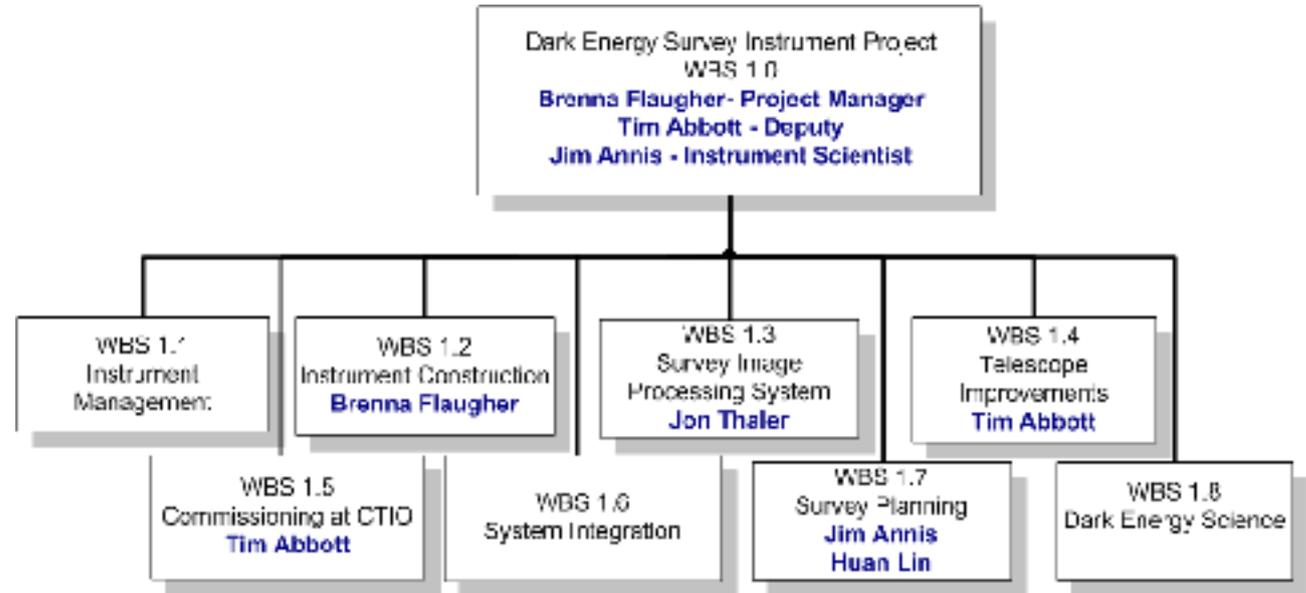


# DES Organization

DES is divided into 2 projects under direction of the Project Director

- WBS 1.0 Instrument project – Fermilab is leading institution
- WBS 2.0 Data Management project – UIUC/NCSA is leading institution

Instrument project provides simulated and real data to the Data Management project



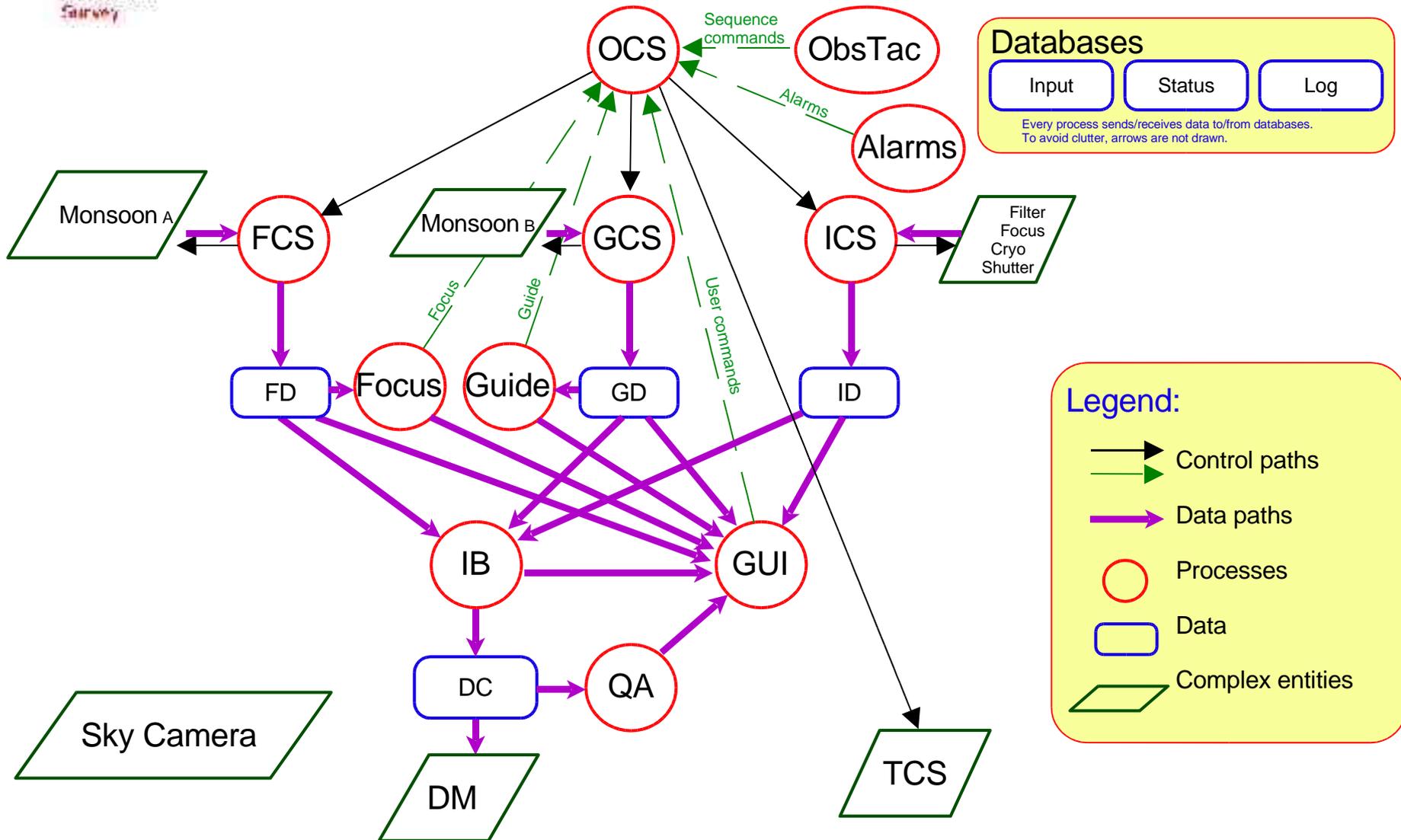
Within Fermilab:  
Instrument Construction  
is mainly PPD + CD-EAG

Survey Planning is in  
CD-EAG, this is the contact with Data Management (DM)



# Survey Image System Process Integration

## SISPI – Jon Thaler (UIUC) leading the effort





# Possible Additional CD involvement

- **Instrument "slow" controls (shutter, vacuum, etc.)**
  - Fermilab is lead.
  - Estimated need: 0.5 EE for 6 months
- **Telescope/Instrument controls - SISPI (equivalent of SDSS IOP/MOP/SOP)**
  - UIUC Thaler is lead
  - Estimated need: 2 FTEs CPs for 2 years



# More Possible Additional CD involvement

- **Monsoon (equivalent of SDSS astrodrda & VME)**
  - We have already asked for .08 FTE (assist with review)
  - Estimated additional need: 0.25 FTE CP
    - Release manager
    - SysAdmin
  - More estimated additional need: 0.25 FTE CP
    - Monsoon software debug & enhance
- **CCD Testing operations**
  - Organization and integration of testing activities with database & storage
    - Estimated need: 0.5 FTE for 2 months
  - Monsoon HW enhance
    - Estimated need: 0.25 FTE EE for 2 months



# DES - Current Status

- **Survey Planning & Simulations**
  - Making good progress. Mock data challenge 1 was completed
- **Optics**
  - Slow going (only 1 person)
  - Beginning to work more with U. Michigan and UCL
- **CCD Testing**
  - Needs help
- **Website**
  - OK(?)



# SNAP/JDEM

- **Scope of work: Proposal to PAC**
- **Activities**
  - **Calibrations – prepare 2 volumes for SNAP calib. Plan**
  - **Electronics – Conduct radiation tests on next gen. Mass memory and FPGA; design memory controllers**
  - **Radiation shield – build prototype model**
  - **Simulations and software: manage SNAP software build process, contribute to software infra.; provide pixel level simulations**
  - **Work spread across CD, PPD, AD**
- **Staff (CD)**
  - **1.1 FTE Scientist (EAG)                      1-2 FTE (Engineer) from CEPA**
  - **0.6 FTE CP (EAG)**

# SNAP STATUS

- **Calibrations**
  - **Slow but steady progress - have delivered drafts of 2 volumes of a 7 volume calibration plan**
- **Shields - dormant**
- **Electronics**
  - **Marriner will report**
- **Simulations & Software**
  - **Good progress developing a simulation environment**
  - **Overlap with DES**



# SDSS-GRID



- **Scope of work – iVDGL proposal**
- **Activities**
  - Operate and upgrade SDSS “Tier 1” grid site
  - Run analysis code for SDSS and DES
  - Develop storage grid infrastructure tools for OSG
- **Staffing**
  - 1.4 FTE CP (EAG) (0.9 Funded by iVDGL)
  - 0.25 FTE Scientist (EAG)
- **Status**
  - 1 year remaining on iVDGL project
  - We are interested in continuing with OSG



## SDSS-NVO

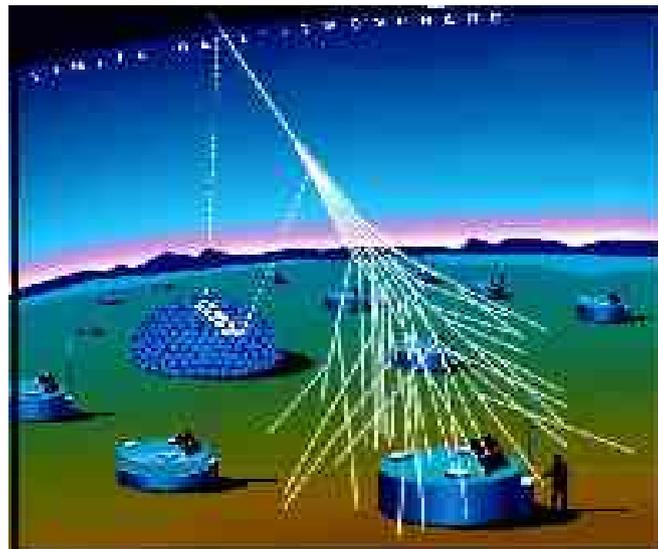
- **Scope of Work: NVO Proposal**
- **Activities**
  - Provide training and develop applications that utilize NVO
- **Staff**
  - 0.2 FTE CP (EAG) (Funded by NVO)
  - 0.05 FTE Scientist (EAG)
- **Status**
  - Could do more, but starved for manpower and scientist attention
  - 1 year to go

# CDMS

- **Final Year**
- **Activities**
  - **Support DAQ**
  - **Assist with data analysis**
- **Staff**
  - **0.1 FTE CP from CCF**

# Auger

- **CD Liason to Auger Project**
- **Staff**
  - few % of Eileen
  - Paul Lebrun





*"I still say we're stretched dangerously thin."*