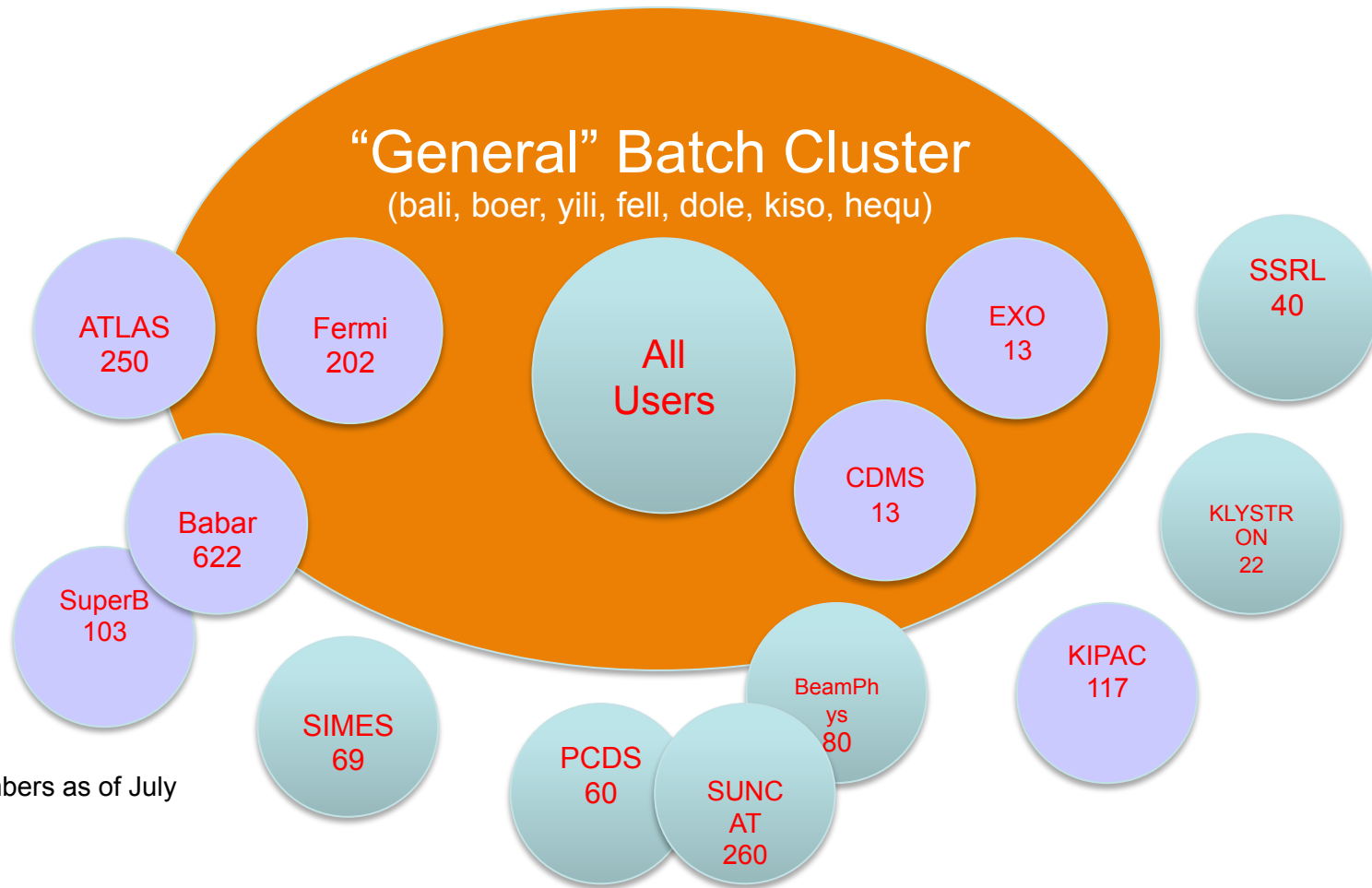

PPA Computing Landscape

R Dubois

PPA

10 May, 2012

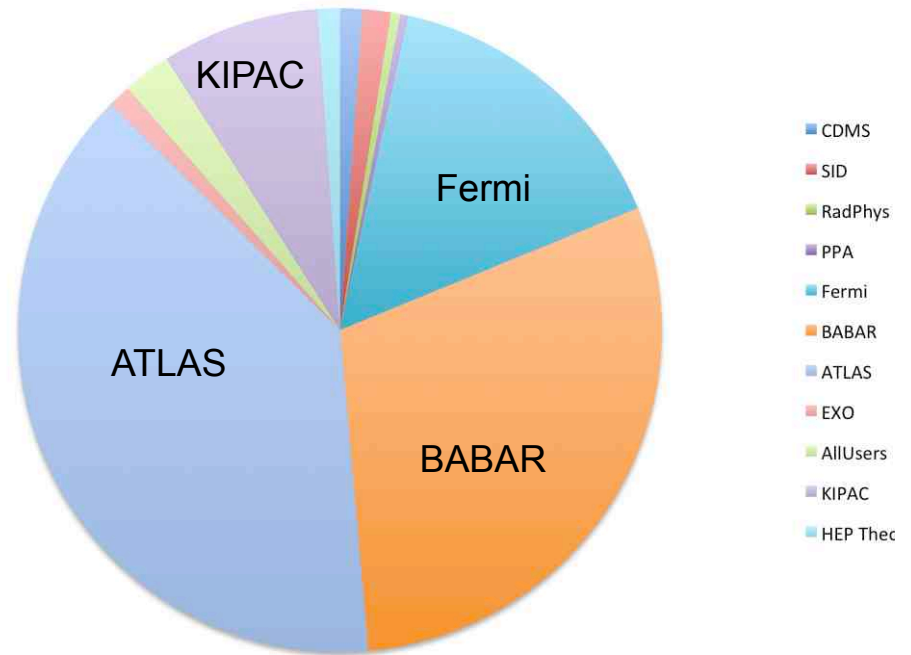
SLAC/SCS Batch Farm



Recharge numbers as of July 2011

PPA Computing Resources

- PPA computing was built on top of BABAR
 - BABAR now ramping down and its hardware is aging – much of it older than 5 yrs
- Fermi (peak), CDMS, EXO, Theory, LSST, SuperB, Users depend on this resource
- Sharing resources allows all programs access to greater common peak capacity, on a base DC level

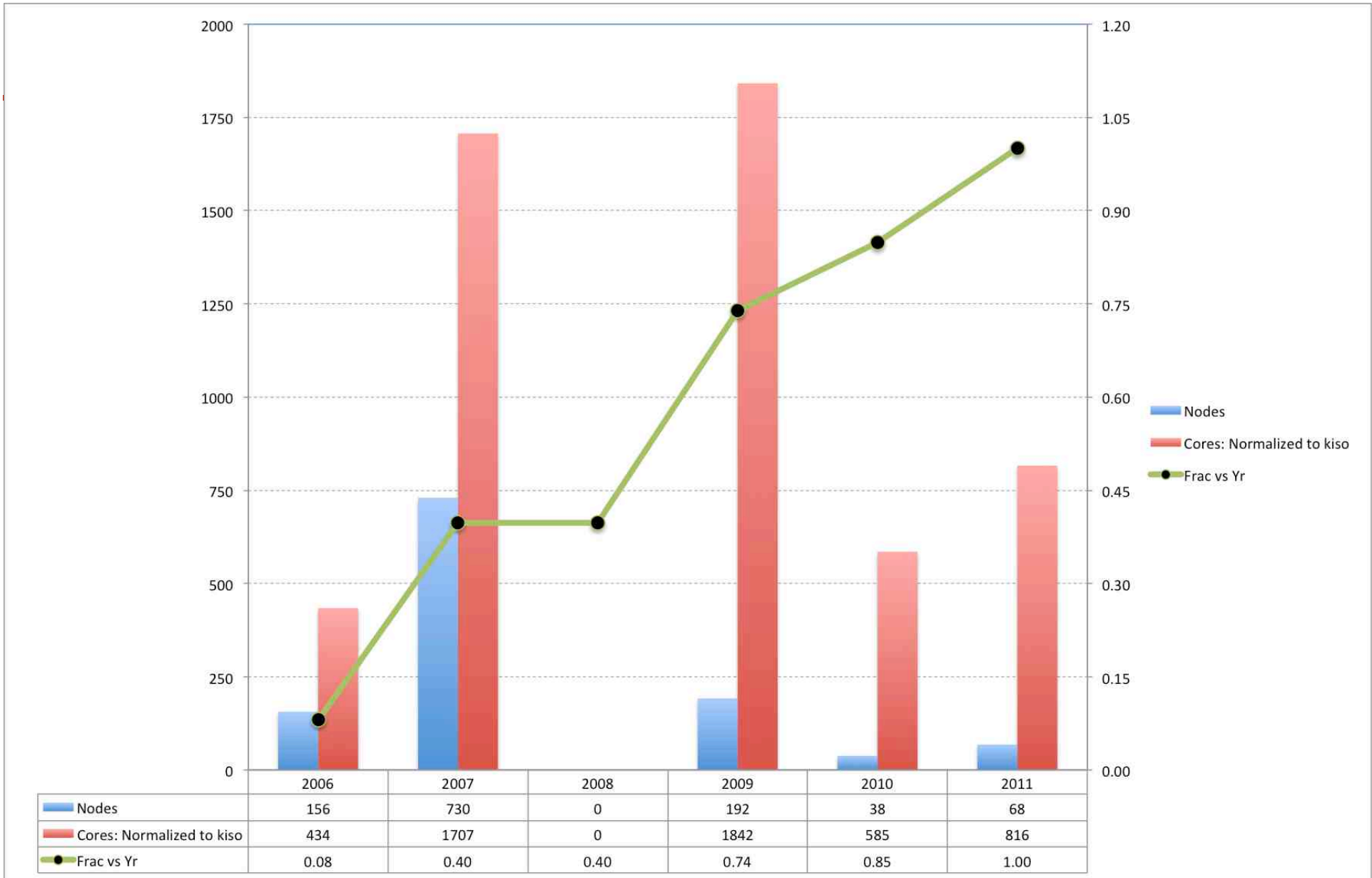


Notes:

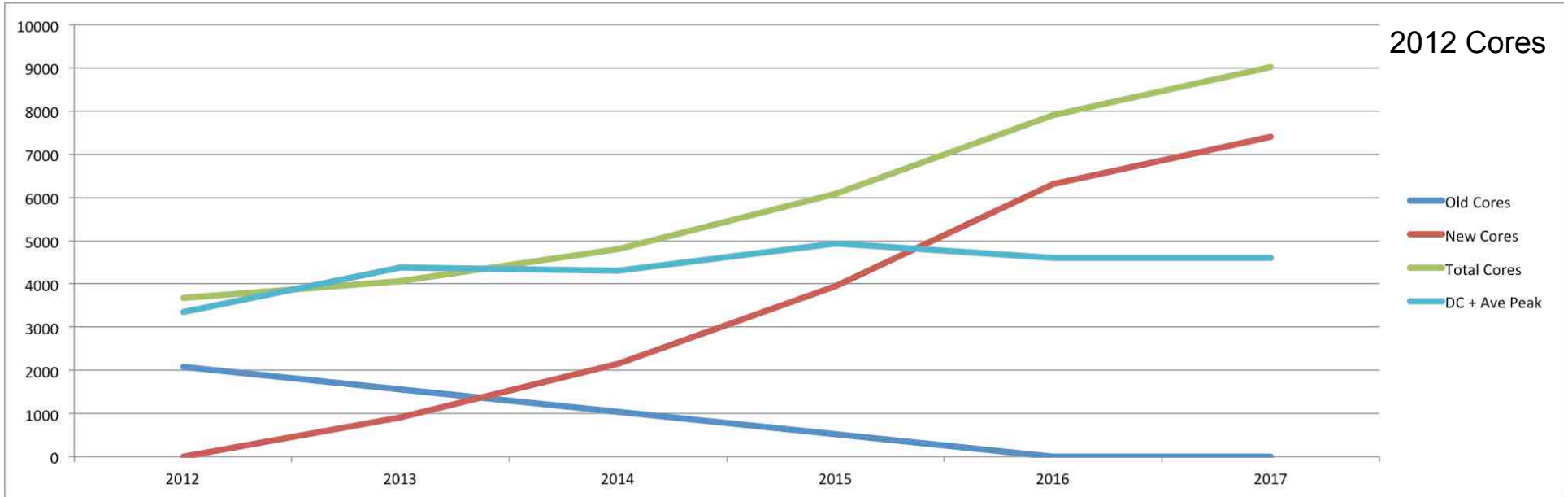
- 7300 cores total - ~5.5k 2012 era cores
- ATLAS Tier2 oversubscribed (ie no spare cycles)

Table of Projected Needs – DC & Peak Cores

Group	Primary Usage	DC [cores]	Peak [cores]
BABAR	Sims; analysis	Project funds	N/A
ATLAS	Tier 2	Project funds	N/A
Fermi	Data (re)processing; sims	Project Funds	1000-2500
CDMS	sims	100	1000
KIPAC	Comp cosmology	380	1000
DES	Cosmo sims; cluster finding; cosmo constraints	250	N/A
EXO	Data processing; sims	100	1000
LSST	DB tests; DCs; sims	400-800	400-800
HEP Theory	LHC MC; BlackHat testing	100	1000



Core Count Evolution



- Retire existing cores at 25%/yr
- Fermi refreshes its 1600 cores
- ATLAS T2 not included on this plot

- Usage is currently saturated by programs
- Program projections made in resource limited environment: could have asked for more
- Purchase rate of \$800k/yr keeps up with turnover for 2 years, then Moore's law still holds
- Could adjust investment level at year 4 based on cycle usage at that point