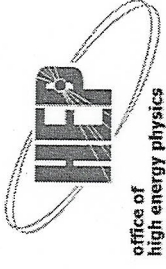


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Resource Trend & Distributions DOE High Energy Physics Program

Report to HEPAP

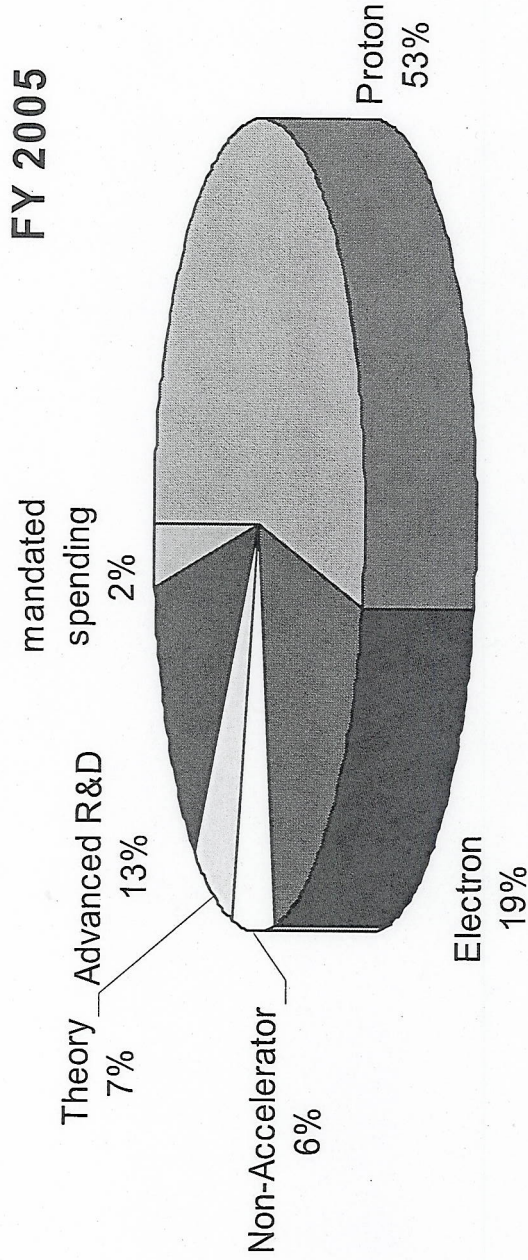
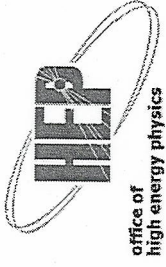
May 18, 2005

Dyon



Composition of DOE HEP Program

- FY 2005

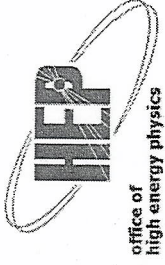


- Proton Accelerator-based: Tevatron, LHC, Neutrinos
- Electron Accelerator-based: B-factory
- Non Accelerator-based: particle astrophysics & cosmology
- Advanced R&D: Accelerator and Detector R&D, including ILC R&D
- Mandated spending: SBIR, STTR etc

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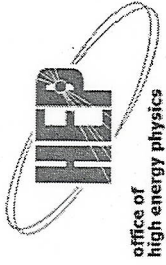
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Funding History

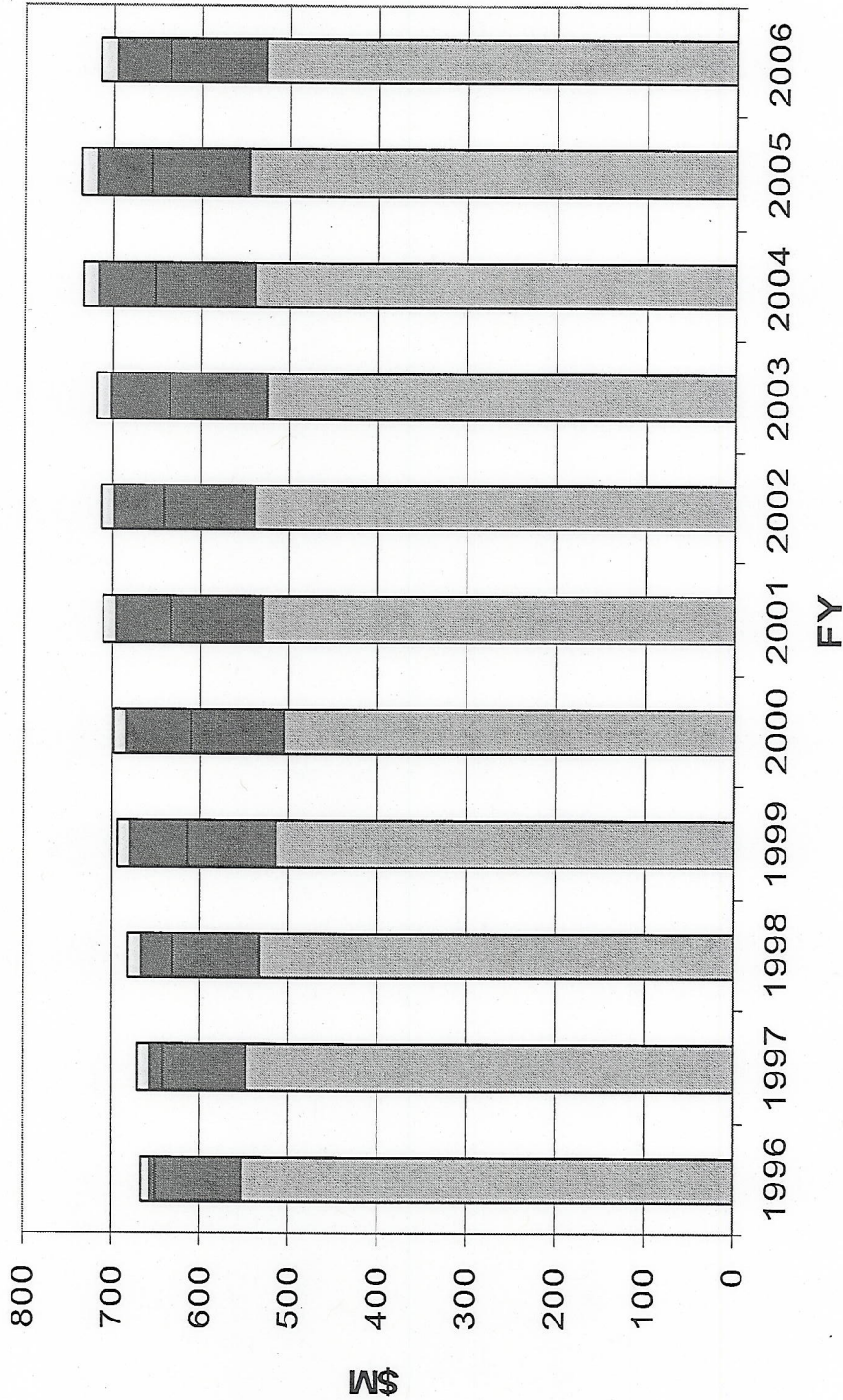


OHEP Funding History

As Spent \$ (Then Year \$)



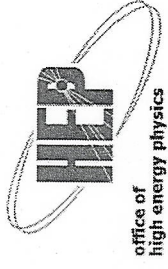
Labs
 Univ
 LHC
 mandated spending





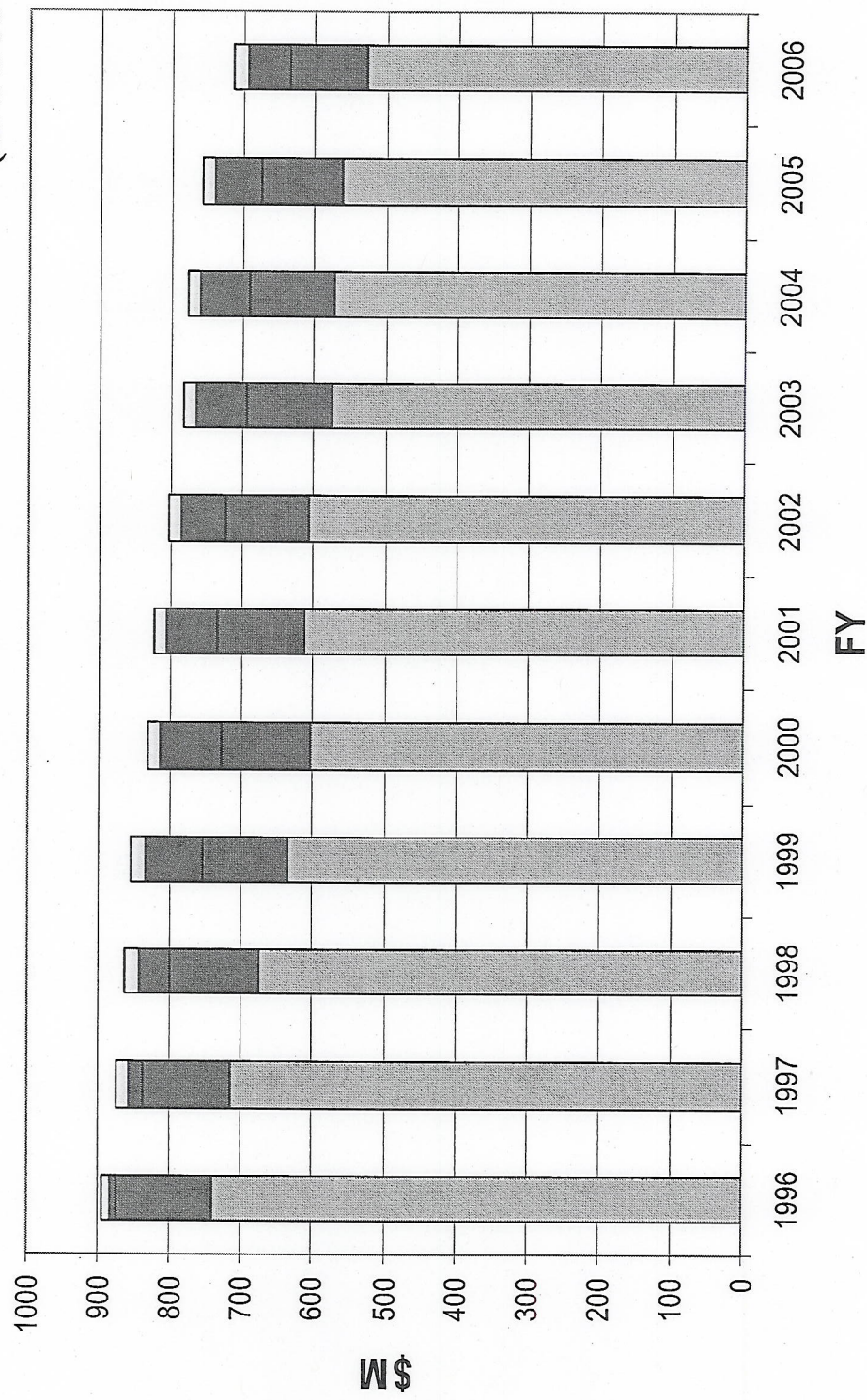
OHEP Funding History

in \$(FY06) with 3% per year inflation factor used



(in FY06-\$)

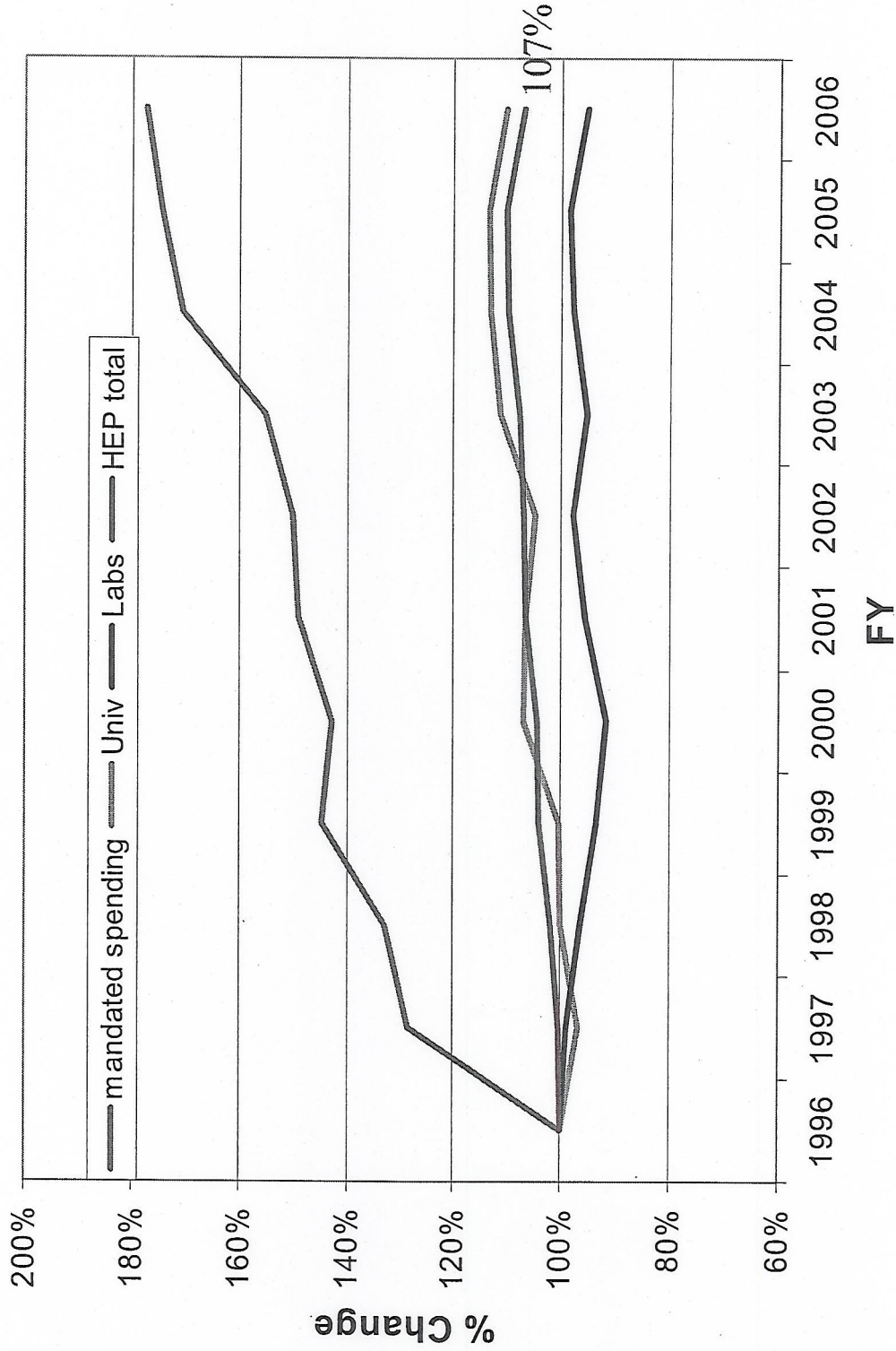
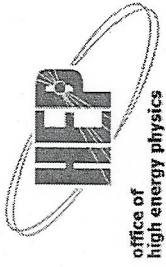
Legend: Labs (light gray), Univ (dark gray), LHC (black), mandated spending (white)





OHEP Funding History

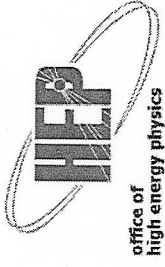
% changes of as-spent-\$ starting 1996



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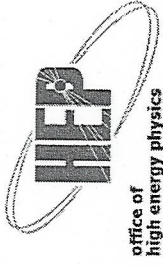


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Human Resource Data



OHEP University Research Program
 Statistics from FY 2001



NOTE: Only includes Experimental and Theory Research Program at Universities
 102 Universities, 236 Groups

FY 1992

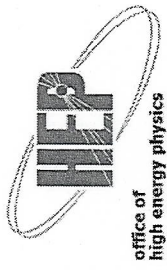
75 Accelerator-based Experiments
 32 Not-accelerator Experiments
 68 Theoretical Physics

FY 2001

77 Accelerator-based
 36 Non-Accelerator
 72 Theory

FY 2001 DOE-funded FTE's (% Change since FY 1992)

Program	# faculty	# postdocs/research Scientists	# graduate students	TOTAL
Theory	225 (-17%)	110 (-16%)	116 (-37%)	451
Experiment	284 (-3%)	332 (+28%)	312 (-26%)	928
Accelerator Based Experiment	35 (-8%)	36 (-14%)	35 (-24%)	106
Not Accelerator Based	544 (-10%)	478 (+10%)	463 (-30%)	1485 (-12%)
TOTAL				



OHEP University Research Program
Statistics from FY 2004

FY 2004

101 Universities; 235 Groups
74 Accelerator-based Experiments
32 Experiments not at accelerators
68 Theoretical Physics

FY 2001

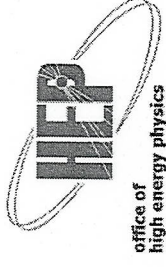
102 Universities, 236 Groups
77 Accelerator-based
36 Non-Accelerator
72 Theory

FY 2004 DOE-funded FTE's (% Change since FY 2003)

Program	# faculty	# postdocs/research Scientists	# graduate students	TOTAL
Theory	212 (-1%)	98 (-5%)	120 (+5%)	430
Experiment Accelerator Based	276 (-2%)	318 (+3%)	321 (+2%)	915
Experiment Non Accelerator Based	46 (+15%)	50 (+15%)	48 (+15%)	144
TOTAL	534	466	489	1489



Laboratories in FY04-FY05



- Measures taken by laboratories: continued from FY02-FY03
 - Voluntary retirement or layoff program
 - No-refill for natural attrition other than critical positions
 - Defer or reduce annual or merit raises
 - Reduce travel
 - Reduce new hires (postdocs, students etc)

Increase in cost of doing business besides inflation

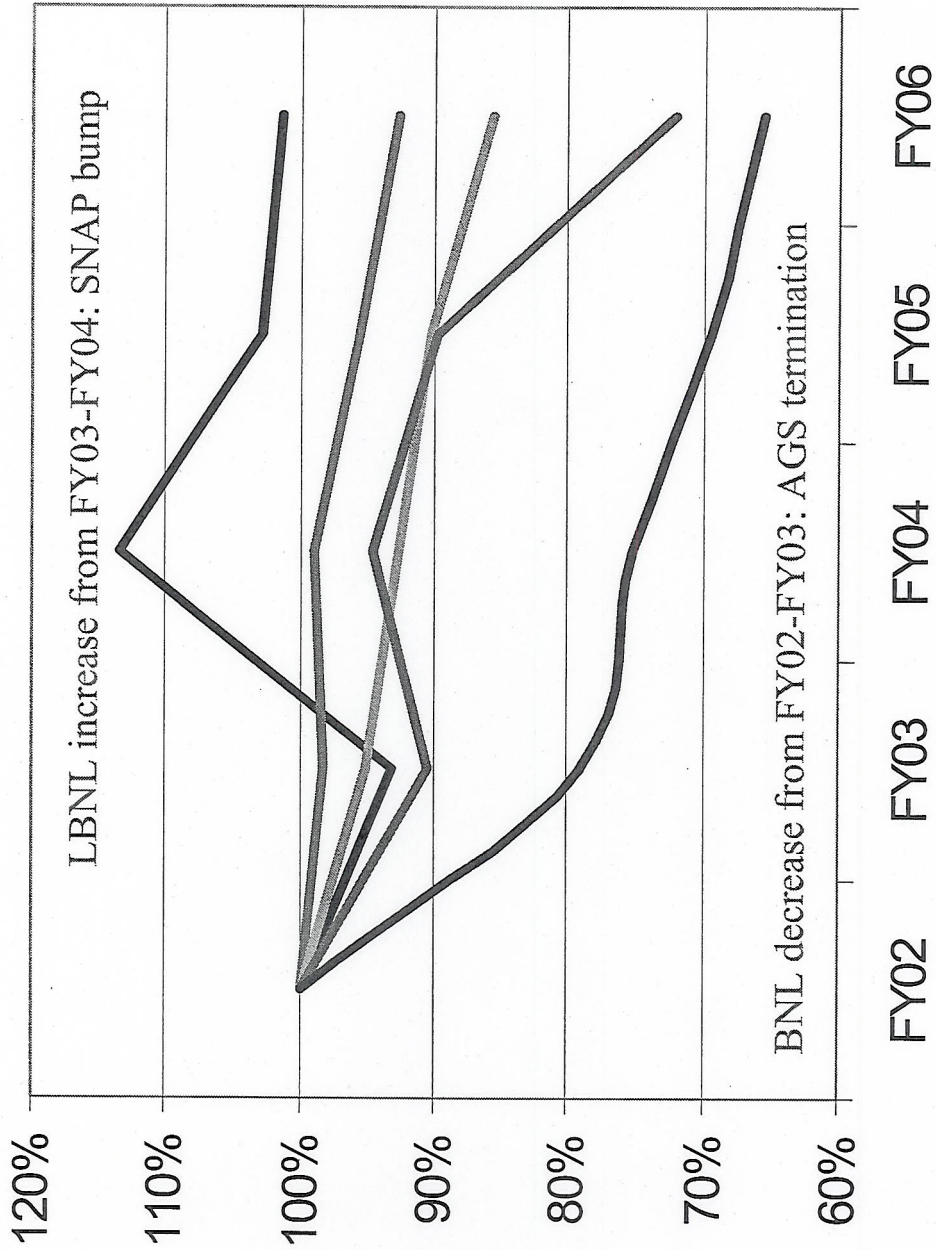
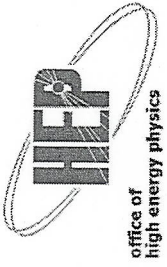
- Compliance to regulations
 - Environmental Protection
 - Safety & Security
- Infrastructure maintenance:
 - guidance: achieve 2% of RPV by FY05 and increase to 4% by FY08
- Benefits (medical insurance, etc)

➤ **Costs more for doing same things**

Many of these measures and impacts
also true for university research program

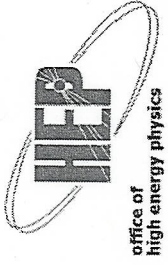


Laboratory staff reduction - HEP funded staff only

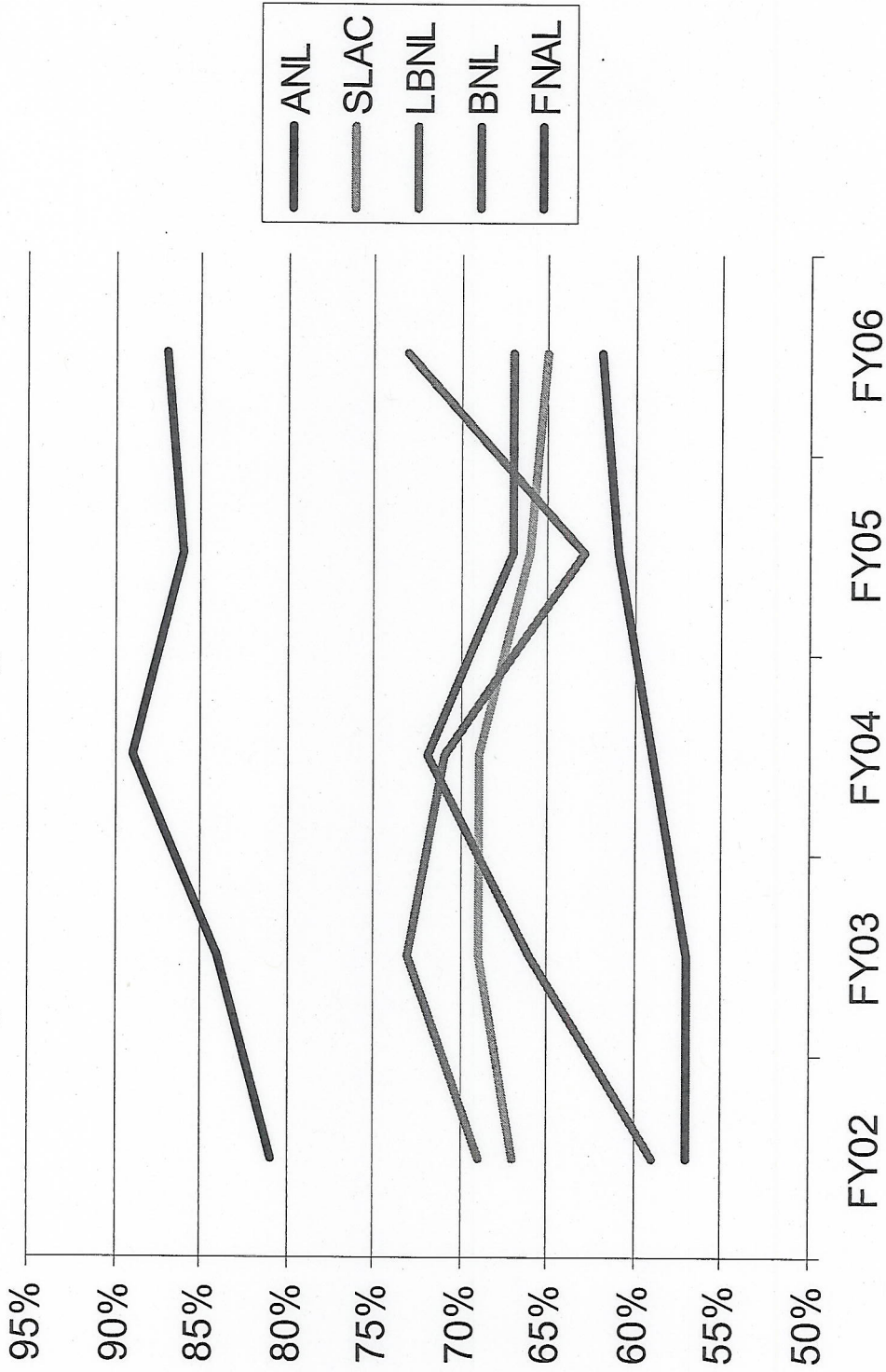




% SWF in total budget

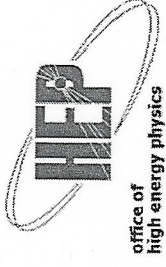


Compared to CERN "effective SWF" in FY03-FY07: ~30%





General Issues & Notes

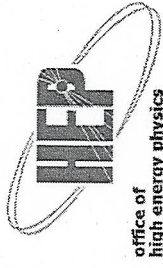


- Budget and staff sizes steadily reduced over past few years
 - Age profile of staff has been raised as a significant concern in all labs during annual program reviews and operations reviews
- Budget dominated by salary
 - CERN “effective” %SWF (include M&S spending by “borrowing from future”) during 2003-2007 is ~30% of its actual total spending per year
- In facilities operations reviews and other assessment processes, FNAL and SLAC were cited for a low level of resource allocation for support activities compared to other labs
 - “stretch out too thin” “stressed” “might not be sustainable”
 - falling behind infrastructure maintenance, human resource service, etc
 - Inadequate support on procurement, legal, etc
- Unless carefully planned and managed, we will be losing foundation of any future initiatives, especially any large initiatives

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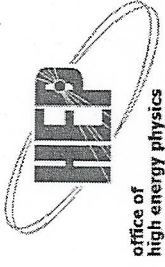
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Backup Slides



Composition of DOE HEP Program

- FY 2005

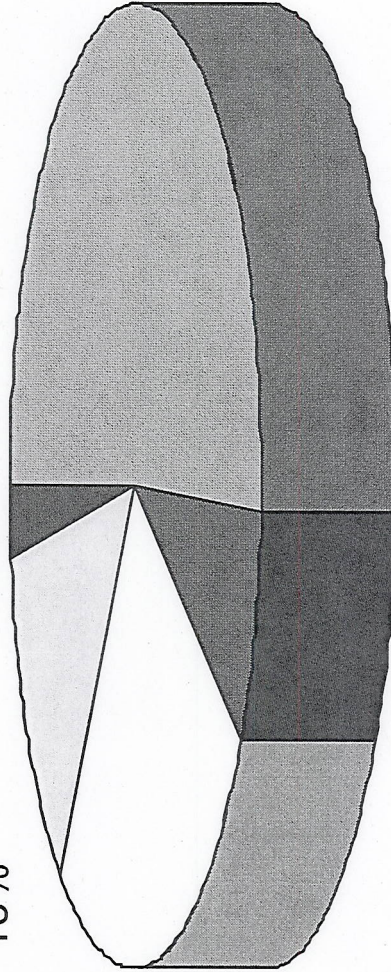


FY 2005

advanced R&D
13%

mandated
spending
2%

core research
26%



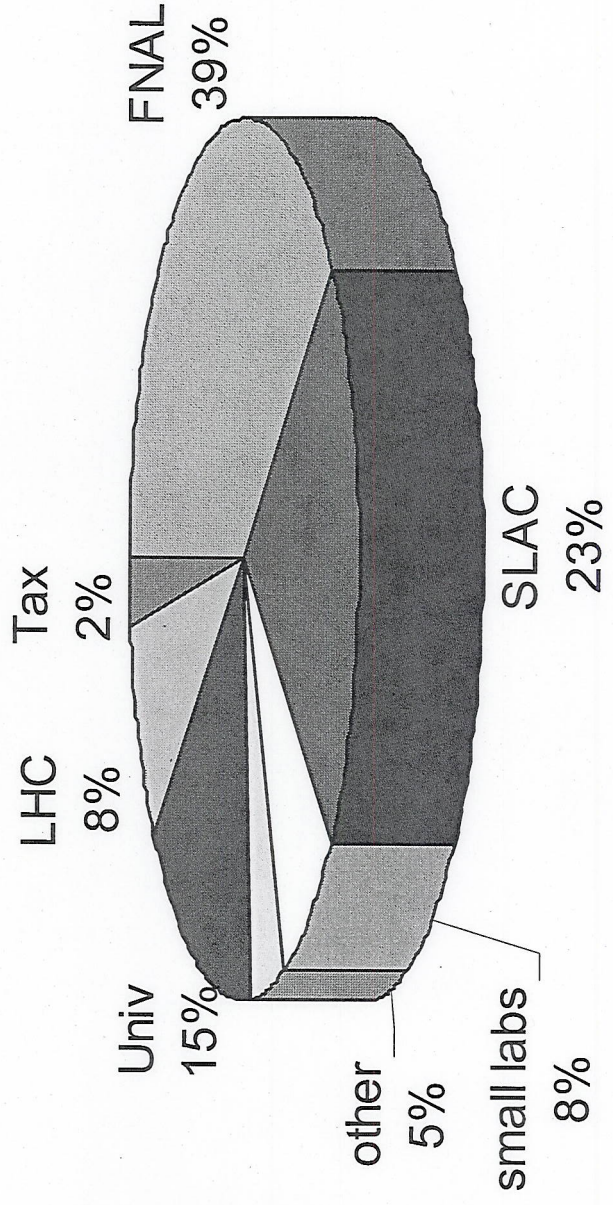
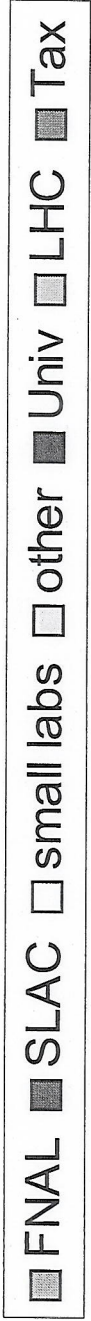
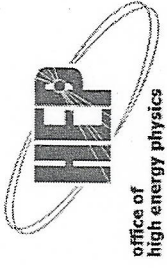
facilities ops
51%

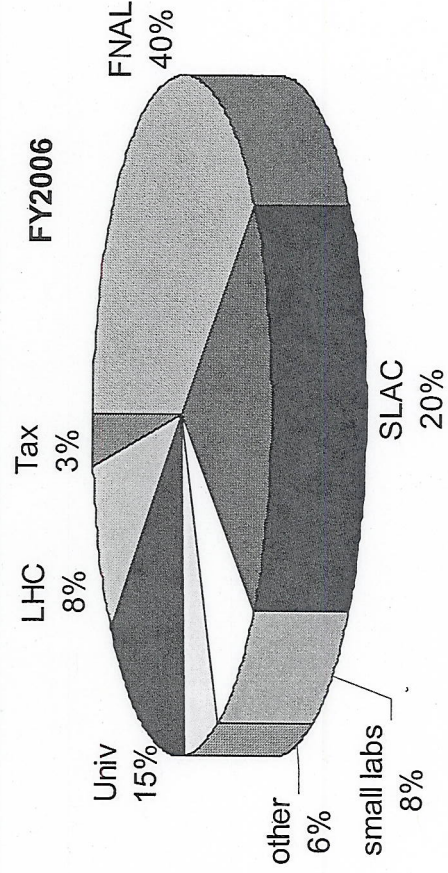
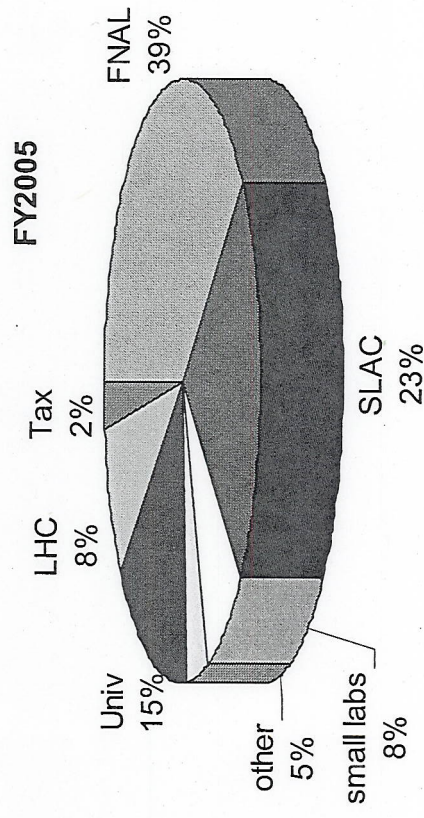
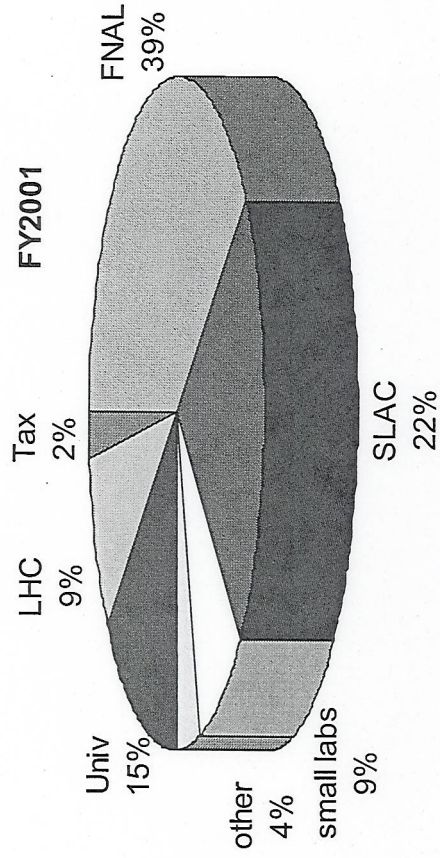
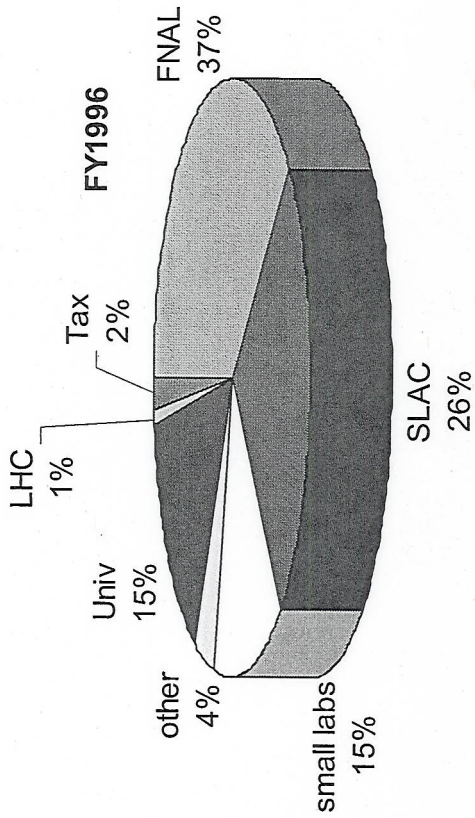
LHC
8%



Composition of DOE HEP Program

- FY 2005

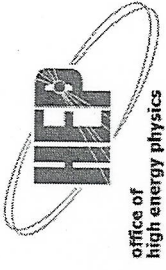




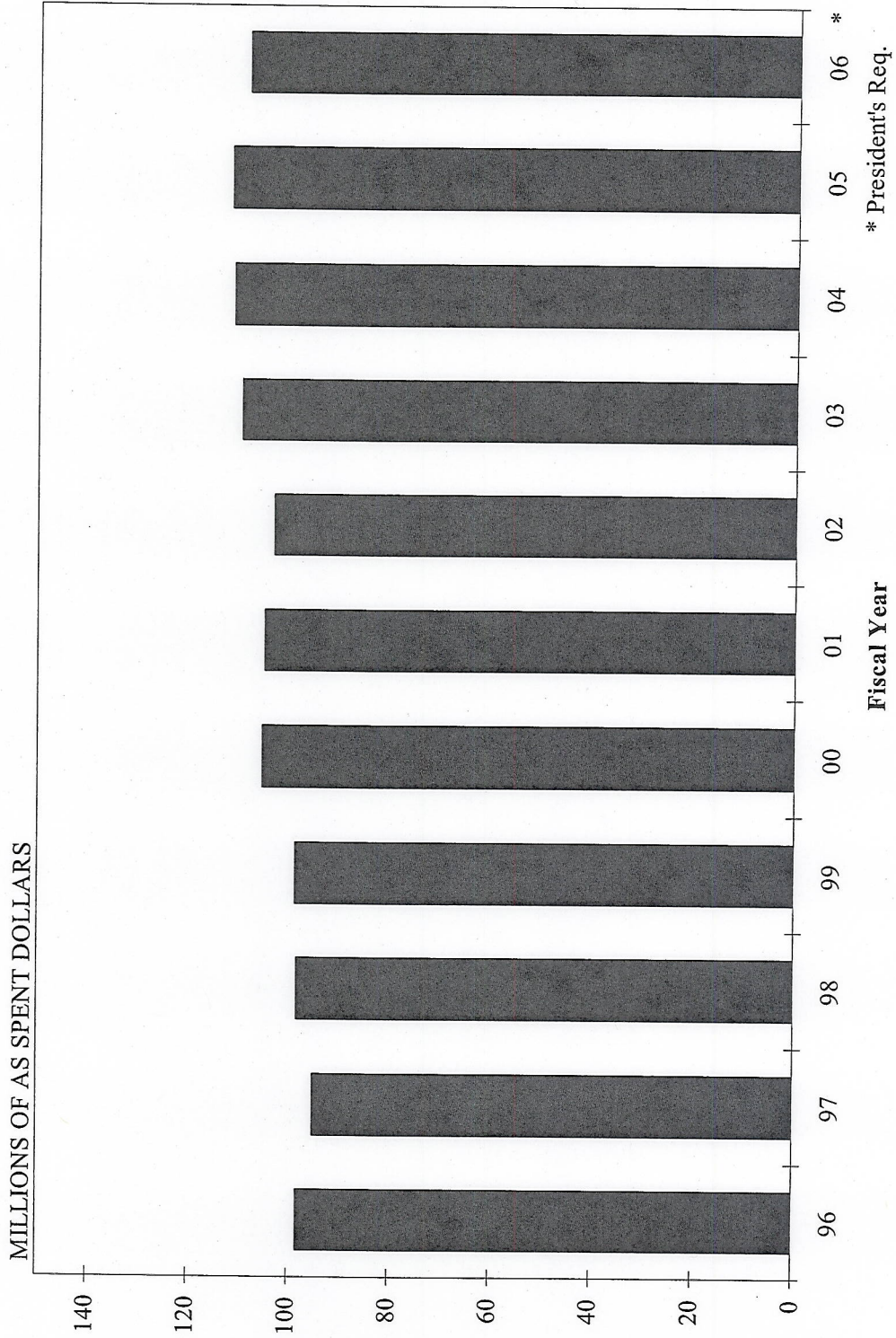
FNAL
 SLAC
 small labs
 other
 Univ
 LHC
 Tax



HEP University Program Funding



HEP University Program Funding





OHEP University Research Program Distribution (FY 2004)

