

NSF Elementary Particle Physics

Budget Summary

HEPAP

April 2002



Marv Goldberg



National Science Board

**Office of
Inspector
General**



**National Science Foundation
Director Deputy Director**

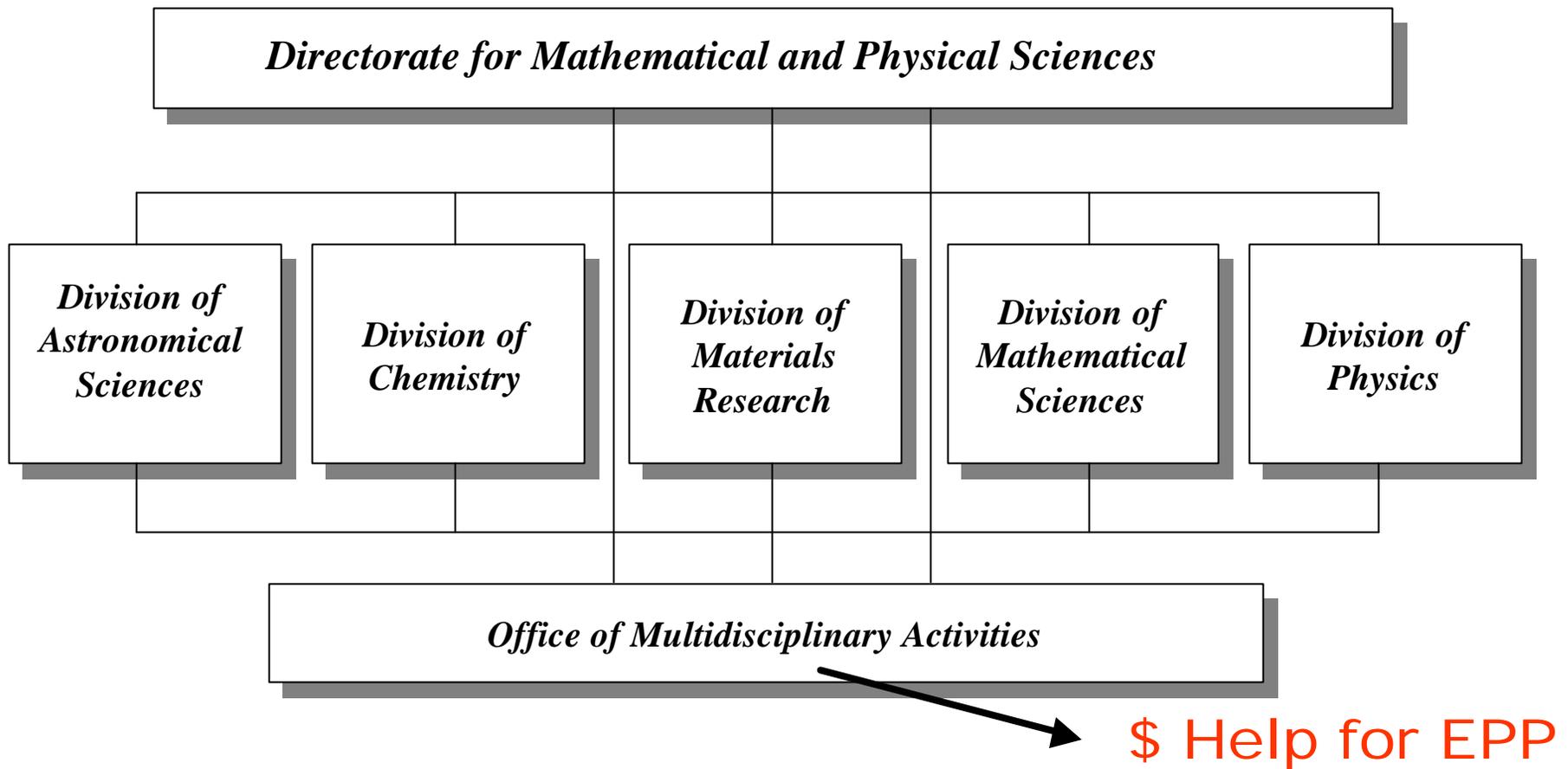
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MPS Structure



NSF Division of Physics

- I. Atomic, Molecular, Optical, and Plasma Physics (AMOP);
- II. **Elementary Particle Physics (EPP);**
- III. Gravitational Physics and LIGO (GP);
- IV. Nuclear Physics (NP);
- V. Theoretical Physics (TP);
- VI. Education and Interdisciplinary Research (EIR)
- VII, NEW ASTROPHYSICS**

*Within TP are the subareas of
Atomic Physics,
Elementary Particle Physics,
Mathematical Physics,
Nuclear Physics,
NEW ASTROPHYSICS*

NSF FY 00-02 Budget Summary

- Budgets: FY2000 FY2001 FY2002 %Change

(\$ millions)

NSF	3,923.36	4,416.39	4,789.30	8.4
MPS	755.88	850.84	922.20	8.4
PHY	168.30	187.54	195.88	4.4

EPP BASE 55.48  64.33 63.03 (-2)

~13% UP

“EPP BASE”: UNIV. Theory + Astro + Accel. Based +Cornell;

FAQ#1 : MPS vs. PHY Increases?

MPS Budget Request

\$\$ in Millions

ANS#1	FY2001 Actual	FY 2002 CP	FY 2003 Request	Change \$ 03/02	Change % 03/02
AST	\$148.74	\$165.86	\$161.25	-\$4.61	-2.8%
CHE	154.28	162.89	160.80	-2.09	-1.3%
<i>Materials</i> DMR	209.67	219.51	219.32	-0.19	-0.1%
<i>Math</i> DMS	121.44	151.48	181.87	30.39	20.1%
PHY	187.54	195.88	193.31	-2.57	-1.3%
<i>Multi-Disc</i> OMA	32.41	24.83	25.02	0.19	0.8%
Total: MPS	\$854.08	\$920.46	\$941.57	\$21.12	2.3%

Math Initiative Continues

PHY	168.30	187.54	195.88	4.4
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Facilities Subtractions (\$M)

LIGO OPS				up 7.2
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NSCL OPS				up 3.1
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Physics Frontier Centers

				up 4.0
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NSF Initiatives in PHY Budget

				up 2.3
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TOTAL SUBTRACTIONS				16.6
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ANS#2 Then PHY CORE is DOWN 4.4%

EPP BASE	55.48	64.33	63.03	(-2.0)
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FAQ#3 Why are Univ. PI Grants being cut by
~12%?

EPP BASE	55.48	64.33	63.03	(-2.0)
Accel. Based	25.08*	22.77(a)	22.14(b)	(-2.7)
Accel. Based Committed			-15.50	
Available for Reductions			6.64	
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Reduction @ 12% of Available			0.80	
Reduction Required FY01 to 02 (a-b)			-0.63	
ANS#3 What is left FY02			0.17	

- Reviewed *New Facilities Needs* in FY02 are ~\$10M and *New Proposals*; Quarknet...
- Facility needs include **RSVP, CESR-c, LHC OPS**. We are pursuing additional funding but will not approach this total.
- We may be able to reduce cuts next year, when other grants come up for renewal.

EPP Allied Funding (\$M)

PFC: \$4.0/yr

ITR: \$6.2/yr

MRI: \$1.6/yr

ESIE: \$0.7/yr

Subtotal \$12.5/yr

MREFC

LHCConst. FY 02 \$16.86

NEW IceCube \$15.00

EPP Base \$63.03

~~EPP "Effective" \$107~~

EPP Allied Awards (Not in Base) (\$M)

NEW Active Physics Frontier Centers Awards

Winstein University of Chicago
Award#:0114422 Center for Cosmological Physics
\$15 60 Months ~\$3/yr

SOON
Baker Hampton University
Award# 02 Center for Origins and Structure of Matter
\$5 60 Months \$1/yr

Total PFC: \$4/yr

Active Information Technology Research Awards

Avery University of Florida

Award#:0086044

~LHC

GriPhyN

\$12

60 Months

\$2.4 /yr

Award#:0122557 International Virtual Data Grid Lab

\$13.5

60 Months

\$2.7/yr

Sheldon Vanderbilt University

Award#:0121658

~BTeV

\$5

60 Months

\$1/yr

Gardner Indiana University

Award#:0113343

~ATLAS

Grid Telemetry

\$0.500

36 Months

\$0.160/yr

Total ITR: \$6.2/yr

No New Large ITR

Active Major Research Instrumentation

Bean Kansas

Award#:0116649 ~D0 Silicon Vertex Detector
\$1.7 36 Months \$0.56/yr

Seidel New Mexico State

Award#:0116179 Semiconductor Detector Design
\$0.36 12 Months \$0.36/yr

Bonvicini Wayne State

Award#:0116058 CESR Beam-beam monitoring

\$0.31 : 36 Months \$0.1/yr

Farrar New York University

Award#:0116590 High-Performance Cluster- Theory
\$0.1 12 Months \$0.1/yr

Active Major Research Instrumentation (cont..)

VERITAS Instrumentation

Swordy Chicago

Award#:0079793

\$0.54

60 Months

\$0.11/yr

Kieda Utah

Award#:0079704

\$0.36

60 Months

\$0.07/yr

Lankford Cal Irvine

Award#:9977770

~ATLAS

DAQ

Development

\$0.58

36 months

\$0.27/yr

Total MRI: \$1.6/yr

Education/Outreach Partnerships

Bardeen FERMI Nat Accelerator Lab

Award#:9819486 QuarkNet

\$1.45

60 months

0.29/yr

Snow Nebraska

Award#:9911855 The Cosmic Ray Observatory
Project (CROP)

\$1.34

48 Months

0.37/yr

Total ESIE: \$0.66/yr

Other Partnerships

Auger

CDMS II

Both with AST and OMA