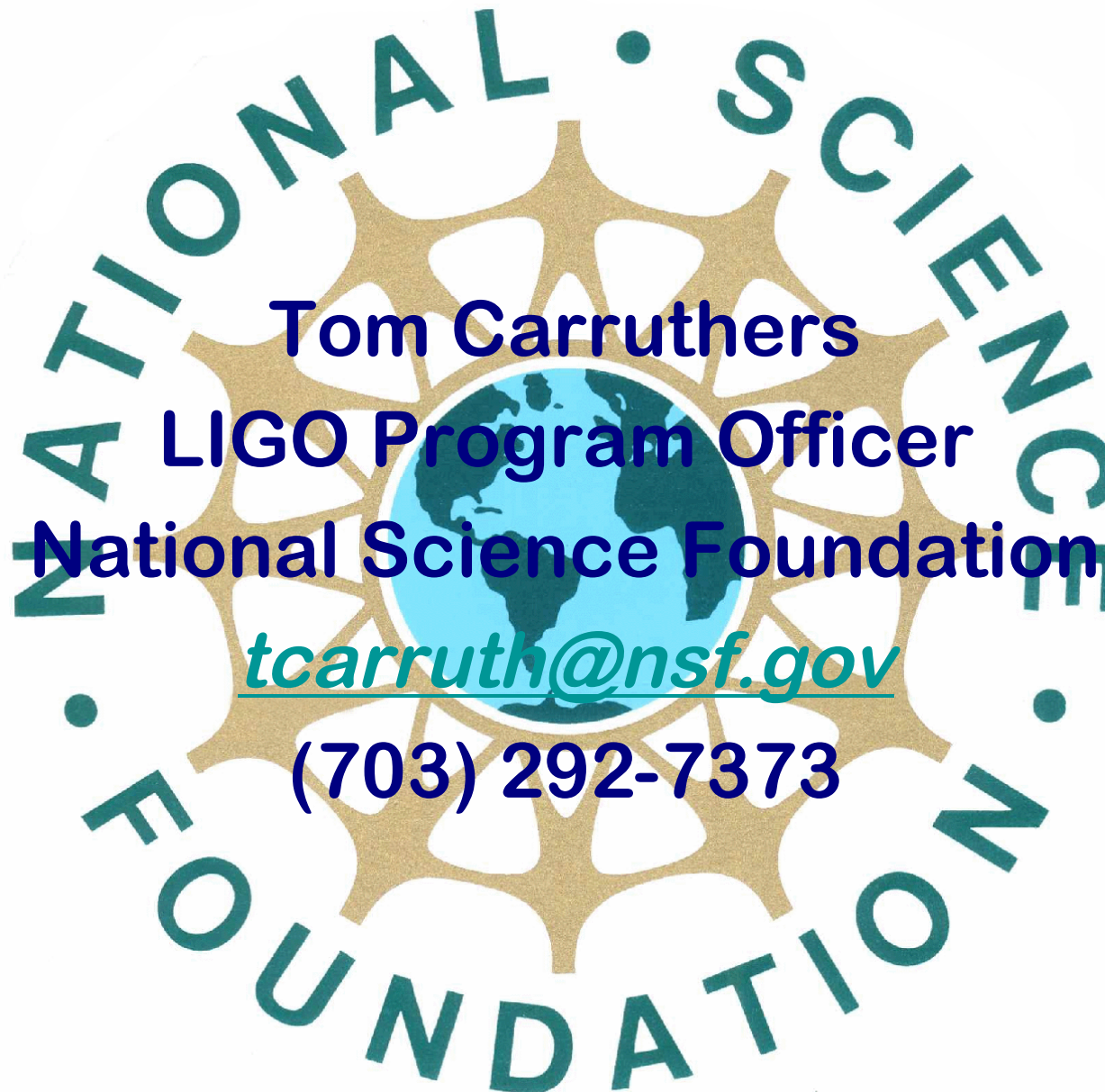


# The View from NSF

QuickTime™ and a  
TrueFont™ (uncompressed) decompressor  
are needed to see this picture.



**Tom Carruthers**  
**LIGO Program Officer**  
**National Science Foundation**

[tcarruth@nsf.gov](mailto:tcarruth@nsf.gov)

**(703) 292-7373**

# NSF / MPS / PHY / Gravity

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from the top down:

**NSF: Arden Bement, NSF Director**

**MPS: Michael Turner, Assistant Director, MPS**  
— returning to U of C 4/1/06

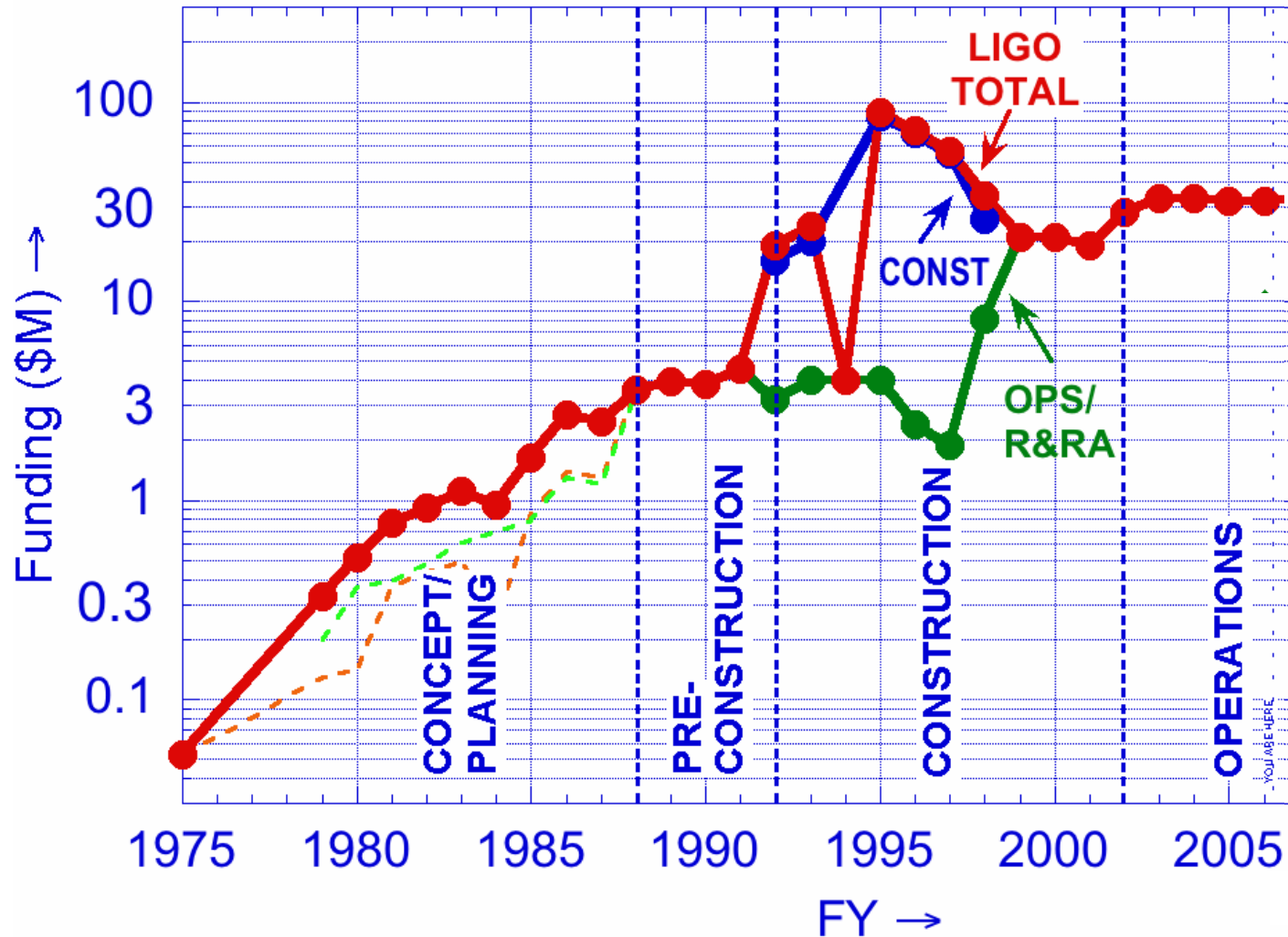
**PHY: Joe Dehmer, PHY Division Director**  
**Jack Lightbody, PHY Senior Facilities Oversight**

**Beverly Berger, Gravity Program Director**  
**(703) 292-7372, [bberger@nsf.gov](mailto:bberger@nsf.gov)**

**Tom Carruthers, LIGO Program Director**  
**(703) 292-7373, [tcarruth@nsf.gov](mailto:tcarruth@nsf.gov)**

# LIGO/AdvLIGO Funding History

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required to see this picture.

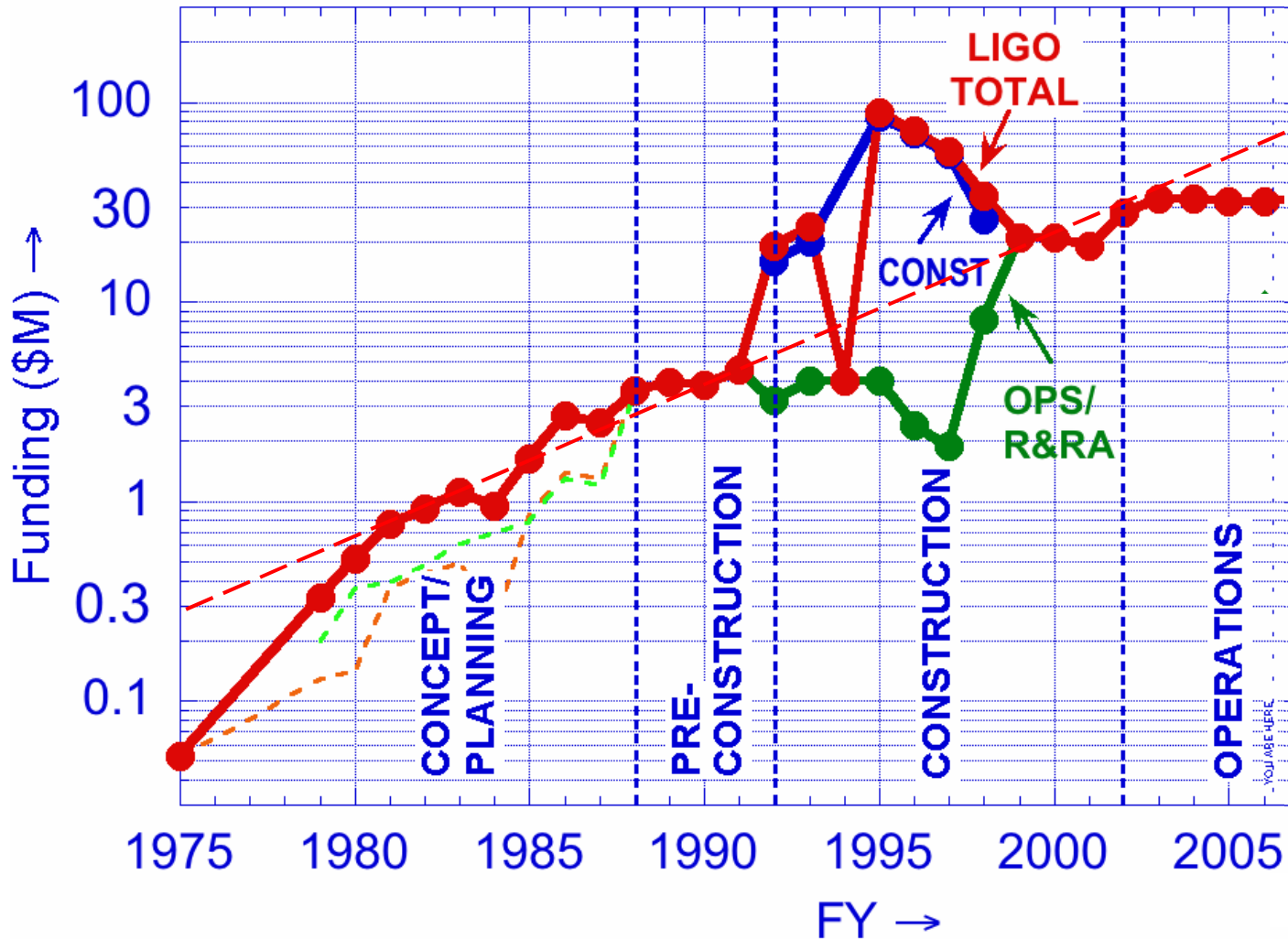


## Early history:

- Weiss & Thorne, 1967 +, MIT & Caltech
- Drever & Hough, 1975 +, Glasgow

# LIGO/AdvLIGO Funding History

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TrueType™ font are  
required to see this picture.



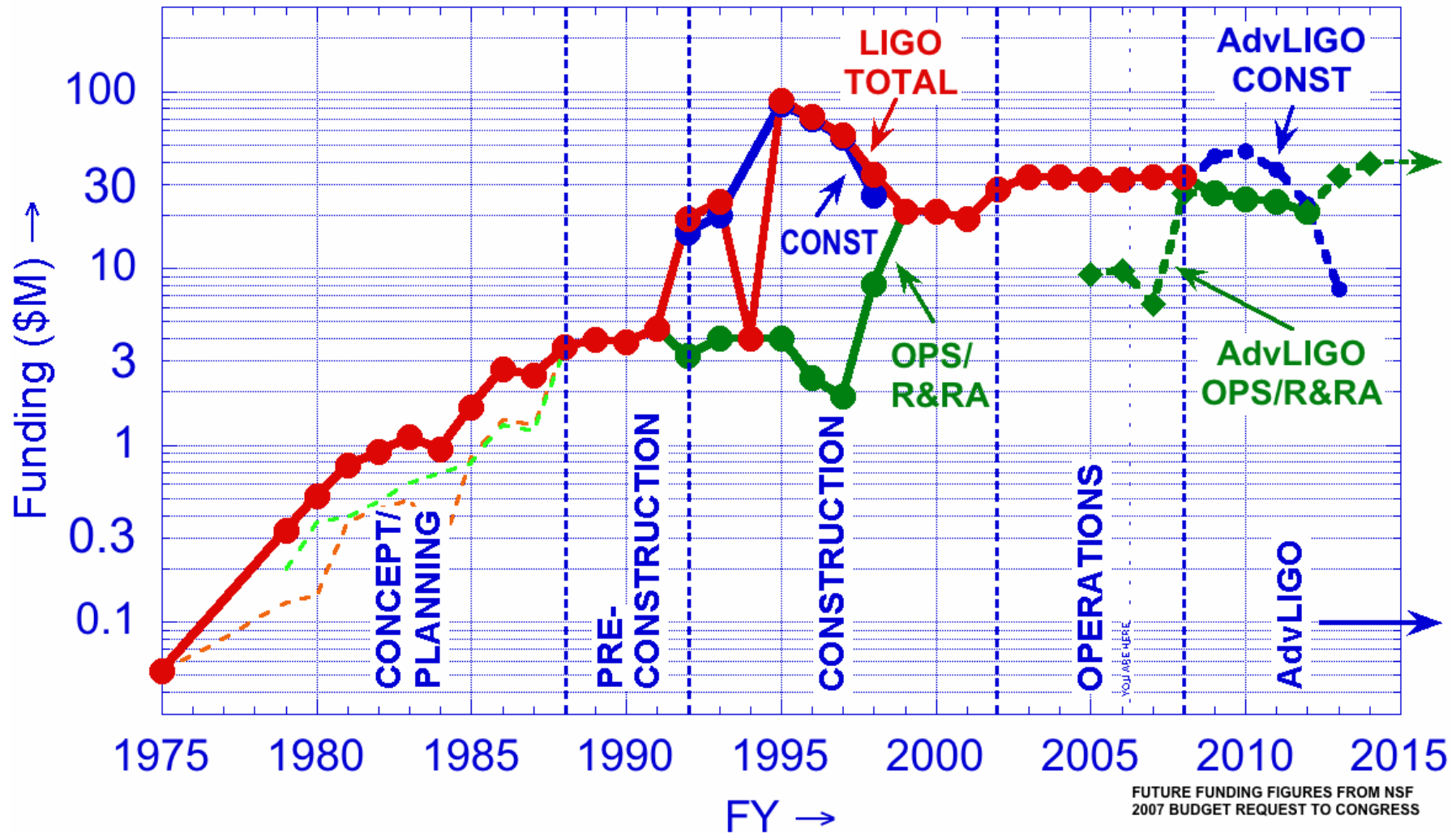
## Early history:

- Weiss & Thorne, 1967 +, MIT & Caltech
- Drever & Hough, 1975 +, Glasgow

# LIGO/AdvLIGO Funding History

QuickTime™ and a  
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## and “Future History”

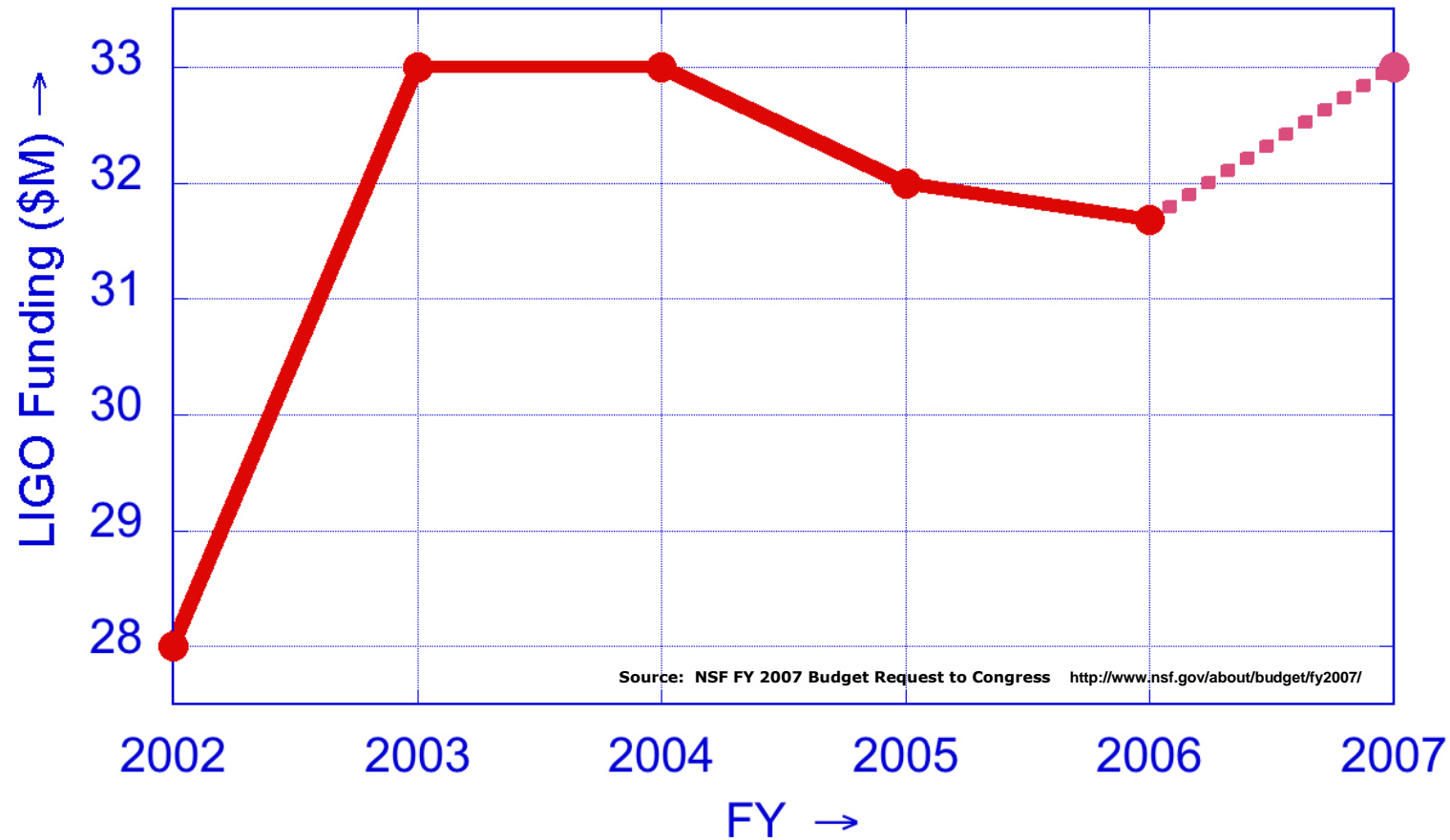


FUTURE FUNDING FIGURES FROM NSF  
 2007 BUDGET REQUEST TO CONGRESS

# LIGO Funding

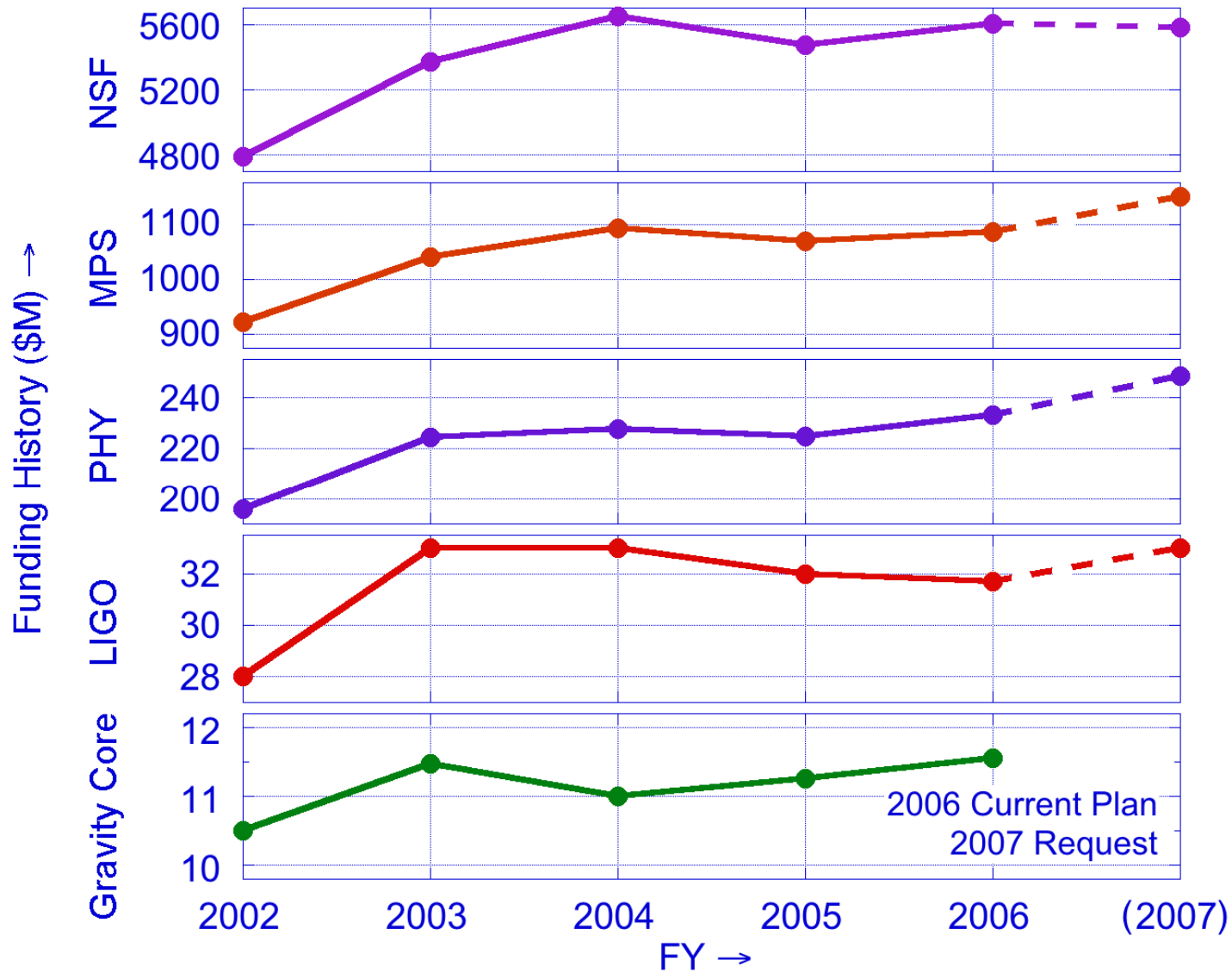
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are needed to see this picture.

## Operational Phase, 2002-2007+



# NSF Funding

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# LIGO Funding Extension

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- An annual review was held in November 2005 at Caltech. Among the topics considered:
  - Effectiveness of LIGO science and management;
  - Whether a 2-year funding extension should be recommended to continue operations until AdvLIGO begins.
  - Whether recompetition of LIGO's management should be considered.
- The conclusions of the review panel were overwhelmingly positive:

*“All three instruments have achieved and slightly surpassed the design requirement for strain sensitivities of  $10^{-21}$  rms.... The Review Panel congratulates LIGO for this remarkable milestone achievement.”*
- The review panel recommended against recompetition.
- This month the National Science Board will consider a request for extension of LIGO funding for FYs 2007–08.



# Advanced LIGO

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“The timely upgrade of LIGO and execution of the LISA mission are necessary to open this powerful new window on the universe and create the new field of gravitational wave astronomy.”

—*Physics of the Universe* ( NSTC, 2004)

In 2004, a review approved the scientific basis for AdvLIGO.

- AdvLIGO is in the FY 2007 Budget Request to Congress for an FY 2008 start.
- On May 31 – 2 June, a baseline review of the planning for AdvLIGO will be held at MIT.

# Cybersecurity

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- Security for all information technology systems, including equipment and information, is the awardee's responsibility.
- Cybersecurity should be a component in annual reviews.

## Security Professionals' Conference

April 10–12, 2006, Denver CO (20 March deadline)

Sponsored by EDUCAUSE

<http://www.educause.edu/securityconference>

- Best academic security conference
- >400 attendees from academia & gov't

# LIGO Video

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required to see this picture.



- New version of video is available in 20-, 24-, & 27-min versions; “technical” content increases with length
- Videos available here for the sites
  - No copy protection, in public domain—make copies!
- Suggest that LIGO Web page link to NSF’s streaming version (when it goes up)

# Proposal Submissions

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<http://www.nsf.gov/div/index.jsp?div=PHY>

[Gravitational Physics](#)

Division of Physics  
**Gravitational Physics**



## CONTACTS

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Denise S. Henry	<a href="mailto:dshenry@nsf.gov">dshenry@nsf.gov</a>	(703) 292-7386	1015 N
Ramona Winkelbauer	<a href="mailto:rwinkelb@nsf.gov">rwinkelb@nsf.gov</a>	(703) 292-7390	1015 N

## DUE DATES

**“Deadline”**

Full Proposal ~~Target Date:~~ **September 27, 2006**

It is recommended that proposals come in near the general Physics Division target date, the last Wednesday in September of each year.

## SYNOPSIS

Emphasizes the theory of strong gravitational fields and their application to astrophysics and cosmology, computer simulations of strong and gravitational fields, and gravitational radiation; and construction of a quantum theory of gravity. The program oversees the management of the construction, commissioning, and operation of the Laser Interferometer Gravity Wave Observatory (LIGO), and provides support for LIGO users and other experimental investigations in gravitational physics and related areas.

# Proposal Submissions

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[Gravitational Physics](#)

Division of Physics  
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## CONTACTS

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Ramona Winkelbauer	<a href="mailto:rwinkelb@nsf.gov">rwinkelb@nsf.gov</a>	(703) 292-7390	1015 N

## DUE DATES

***Deadline unless prior approval is obtained from PO:***

**Full Proposal ~~Target Date:~~ **September 27, 2006****

It is recommended that proposals come in near the general Physics Division target date, the last Wednesday in September of each year.

## SYNOPSIS

Emphasizes the theory of strong gravitational fields and their application to astrophysics and cosmology, computer simulations of strong and gravitational fields, and gravitational radiation; and construction of a quantum theory of gravity. The program oversees the management of the construction, commissioning, and operation of the Laser Interferometer Gravity Wave Observatory (LIGO), and provides support for LIGO users and other experimental investigations in gravitational physics and related areas.

# Gravitational Physics Program



## Scope

- Research related to gravitational waves, including research in support of LIGO ;
- Experiments to test gravitational theories;
- Experiments to test particle physics and string theory:
  - equivalence principle violations,
  - deviations from  $1/r^2$ ;
- Theoretical research in classical and quantum gravity.

## Process

1. Proposals are sent to LIGO Lab for review (with permission of PI).
2. Proposals are sent to mail reviewers and panelists for individual review.
3. The panel meets and has access to all the reviews including the LIGO Lab review and PAC report if they have been completed. (The PAC report was late this year.)

**Deadline: September 27, 2006**

# Gravitational Physics Program



## Reviews

It is becoming almost impossible to select reviewers who have detailed knowledge of LIGO because most such people have conflicts of interest with the proposers.

1. Many reviewers from outside the field would have liked to have seen more background information and details. It might be wise to assume that your proposal will be evaluated primarily by scientists outside the gravitational wave community when you write the Project Description.
2. A significant number of reviewers would have liked to have seen some "endorsement" by LIGO (either Lab or Collaboration) within the proposal to be able to judge the importance of the activity to LIGO. While the panel sees the LIGO Lab reviews, the individual reviewers do not. The LSC might wish to think about how to provide this information within the proposal.

**Deadline: September 27, 2006**