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To: PVANDENB AT NRAO
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From: fyi@pinet.aip.org (marguerite_mullhall)
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To: tyson@physics.att.com
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Draft Bill Prohibits Construction Funds for LIGO

FYI No. 58, May 3, 1991

The Science Subcommittee of the House Science, Space and Technology Committee approved a draft bill which amends the National Science Foundation Authorization Act. The amendments bring NSF authorization levels in line with the President's funding proposals and reflect some changes in priorities.

The current NSF authorization law approved funding levels over a five-year period, from FY 1988 through FY 1993. The law calls for a doubling of the NSF budget by 1992 and, therefore, authorized approximately \$500 million more than the President's request for FY 1992. There is no real need to make amendments since the authorization is non-binding; the appropriations committee can fund NSF at levels above or below its authorization. However, this action is another indication of Chairman George Brown's interest in raising the profile and influence of the Science, Space and Technology Committee.

The draft bill lowers the FY 1992 NSF Authorization to \$2.72 billion, identical to the level of the President's request, which is 17.5 percent above the FY 1991 appropriation level. The bill makes some changes in the President's plan for NSF in FY 1992 in the following areas:

- o \$23.5 million (the President's proposed amount for LIGO construction in FY1992) is shifted from Mathematical and Physical Sciences to the Academic Research Facilities Modernization program
- o A decrease in the Academic Research Instrumentation program from \$50 million to \$33.5 million
- o The Academic Research Facilities Modernization program request is increased from zero to \$40 million
- o A prohibition on construction of the Laser Interferometer Gravitational Wave Observatory (LIGO) in FY 1992

The chairman of the subcommittee, Rick Boucher (D-Va), explained that, "The prohibition on construction of LIGO does not extend to laboratory research or design studies related to LIGO. The intention of the provision is to require NSF to reconsider the timeliness of proceeding with full scale development of LIGO in light of the recent National Academy of Sciences Astronomy survey report. The Academy's report did not endorse LIGO."

The draft bill lowers the current NSF authorization for FY 1993 to \$3.07 billion, which mirrors the three-year budget projection submitted to Congress in the FY 1992 budget request. Boucher noted, "The draft bill endorses the most recent plan to double the NSF budget by 1994." The full committee must approve the bill before it can be sent to the House floor for a vote.

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LIGO PROJECT
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June 10, 1991

Members of the Physics, Astrophysics,
and Astronomy Communities

Dear Colleagues:

In March, Dr. J. A. (Tony) Tyson of AT&T Bell Laboratories was invited by the House of Representatives Subcommittee on Science to testify about the LIGO Project. He accepted, even though he knew almost nothing about the details of LIGO and had only about ten days to learn and prepare his testimony. To aid his preparation, we sent him extensive written material, most of it unpublished, and several members of our team talked with him by telephone. Unfortunately, Dr. Tyson did not give us an opportunity to help him get the facts straight in his testimony: He sent a copy of his testimony to NSF in advance but forbade it to be sent on to us, and he sent us no copy.

To our surprise, Dr. Tyson's testimony turned out to be an attack on LIGO. It also turned out to contain serious factual errors. In the days following his testimony, we pointed out a number of the errors to him. In partial response, he went back to the Subcommittee to make corrections in his original testimony, and he wrote an addendum. However, his corrected testimony and his addendum still contain serious errors.

In recent weeks, Dr. Tyson has been presenting his negative views of LIGO to the media (The New York Times, and at least one interview on a radio talk show), and we recently learned that he has mailed out copies of his testimony and addendum to a number of colleagues. Dr. Tyson is certainly entitled to express his views on matters of scientific judgement. However, we would have preferred that the debate about LIGO take place not by a letter campaign, but rather in a forum more appropriate to scientific discourse and evaluation. Nevertheless, because of Dr. Tyson's mailing, we feel we have no choice but to reply with a mailing of our own that corrects his factual errors.

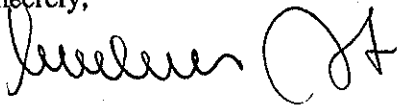
This mailing includes the following documents:

1. A reply to Dr. Tyson's testimony. This reply focuses on two issues: (i) What is the appropriate way to evaluate whether LIGO is ready for construction? (ii) What are the significant errors that remain in the final version of Dr. Tyson's testimony and addendum?
2. A description of LIGO, its scientific goals, and the reviews of it that led the NSF and the National Science Board to approve it for construction. This document can be used by those who would like to delve more deeply into specific questions raised by Dr. Tyson's testimony or by our reply.

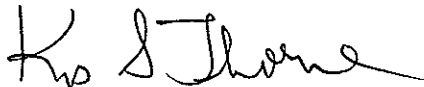
We are trying to target this mailing at people to whom Dr. Tyson is likely to have sent his own testimony, or who are likely to have received a copy in some other way. Since Dr. Tyson provided us with neither a notice of his mailing, nor his mailing list, we unavoidably will miss in many cases. If you know people who have received his testimony, we would appreciate it if you would pass our documents to them. If you never received his testimony yourself, we are sorry to have troubled you with our reply. If desired, the LIGO Project Office will send you a copy of his testimony on request (use the address or telephone number on the above letterhead, or electronic mail: info@ligo.caltech.edu).

It is evident that information about the LIGO Project has not been sufficiently available to the general scientific community — especially astronomers and astrophysicists. We have given presentations to the relativity community, to American Physical Society meetings, to a meeting of the American Association for the Advancement of Science, and to expert review committees, but have had no opportunity for presentations directly to the astronomy community. We hope to have the opportunity to rectify this in the future, and we shall follow up this informal mailing by a more formal publication on the details of LIGO in an appropriate refereed journal.

Sincerely,



Rochus Vogt
The R. Stanton Avery Distinguished
Service Professor and Professor of Physics
Director of the LIGO Project
California Institute of Technology



Kip S. Thorne
The William R. Kenan, Jr. Professor
and Professor of Theoretical Physics
California Institute of Technology



Stanley Whitcomb
Deputy Director of the LIGO Project
California Institute of Technology



Rainer Weiss
Professor of Physics
Massachusetts Institute of Technology

Enclosures



CALIFORNIA INSTITUTE OF TECHNOLOGY

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June 21, 1991

Dr. Paul A. Vanden Bout, Director
National Radio Astronomy Observatory
Edgemont Road
Charlottesville, Virginia 22903-2475

Dear Dr. Vanden Bout:

In the next few weeks, the U.S. Senate subcommittee responsible for funding the Laser Interferometer Gravitational-Wave Observatory (LIGO) will vote on the LIGO project. Since a proposal was submitted from West Virginia to host a LIGO facility, I am writing in the hope that you will want to help.

Last week the president of the California Institute of Technology wrote to the governor of West Virginia (letter enclosed) asking him to write the state's U.S. senators and key members of the Senate subcommittee to express support for funding LIGO.

We would appreciate your help in encouraging the governor to communicate with key senators promptly. Thank you.

Sincerely,

Hall P. Daily
Hall P. Daily



CALIFORNIA INSTITUTE OF TECHNOLOGY

Pasadena, California 91125

Thomas E. Everhart
President

(818) 356-6301
FAX (818) 449-9374

June 7, 1991

Governor W. Gaston Caperton
Office of the Governor
Capitol Building
Charleston, West Virginia 25305

Dear Governor Caperton:

As part of the Federal government's investment in scientific research in the United States, President Bush has requested funding for the construction of the Laser Interferometer Gravitational-Wave Observatory (LIGO). The project calls for Federal funding of \$211 million over five years. The National Radio Astronomy Observatory has submitted a proposal to the California Institute of Technology (Caltech), acting on behalf of the National Science Foundation, for selection as a site for one of the LIGO facilities.

LIGO is an important scientific project that is expected to contribute significantly to basic knowledge about the universe. In addition, its construction will be an opportunity for manufacturers of specialized materials, construction experts, students, and scientists in your state and throughout the nation to be part of an exciting new field.

In collaboration with scientists at the Massachusetts Institute of Technology and other institutions, the LIGO scientific team at Caltech has worked for almost a decade to design and test an instrument to detect gravitational waves emitted in our universe. LIGO is the culmination of years of study and effort. It has been reviewed and approved by physicists, the National Science Board, and the White House.

Within the next three weeks, the U.S. Senate appropriations subcommittee responsible for funding the National Science Foundation will consider LIGO funding. Congressional budgetary pressure jeopardizes the LIGO project. LIGO may not be funded by Congress unless those interested voice their support.

I respectfully urge you to express your state's support for the LIGO project to your senators and the members of the Senate Subcommittee on VA/HUD/IA in Washington (list attached). The timing is urgent. Without your effort on this matter, we risk never taking this important step into the future. Please feel free to contact the LIGO Project Office (818-356-4481) for further information. Thank you for your attention to this matter.

Sincerely,

Thomas E. Everhart
President

