

Jawain
3/20/90

LIGO in 1991 Budget

Talking with Ray Byrd.

Does Byrd talk to Black?

Byrd said, Robbie Vogt.

Call Robbie Vogt. See if GB on some kind of list.

Get the

Approps. Comm calls.

LA wants

Mitchell wants

Land at our change.

Man into prep. at WV.

Construction going on w GBT.

But we have technicians here.

Push a little. If we don't try, Byrd mad.

Call Vogt. Get long of land,

Get GB on some list.

Vogt will put a list together.

Dist WV already

Byrd is going to see LIGO announced.
We don't decide.

Sen B may say, "I don't want to interfere with Johnston
+ Mitchell." (2)

Let us submit as a possibility.

We've thought about it. We have our plate full!

Robbie Voigt

3/27/90

(1)

Construction costs in WV very, very much higher.

My reaction

NRCO will be helpful & cooperative if scientific priorities move in this direction

We are not the drivers, we are not behind them,
We are radio astronomers

Block being handled by other senators — under pressure,
Catech Pres asked, how

So unpleasant. NDT will decide, but will not be
full eyes.

Robbie Voigt will be.

Competing — Mitchell
Congressman Roe, N J
For Dix

Mississippi — Stennis Space Center

Louisiana — Johnston,
Angry at NDT
LA never gets anything,
Poor state

Telegram from Chancellor of U Maine, It came to his
attention, LIGO Apertures.

Prime only.

To ensure, asked Maine congressional delegation to handle

Proposal of Festering

We have been asked to collect data on site,
None picked,
Pestotechnical process.

GB too expensive.

Under active consideration
all GB data

Main

NJ

Mississippi

Louisiana

Edwards 9FB

~ dozen

NSE will work out process of selection.

→ Will make selection

Voyt will get the blame

Letter from Block to Mitchell spelling out in detail.

Stay out of politics

Be honest, try to do best job.

Best possible technical & scientific job that can be done.

Schedule?

Being set by N O E,

Very amateurish, Don't

Block supposed to go by August.

Want to keep site selection until after Congressional
hearings

Since testimony has been given
Subcom on Appropriations

Senate hearings have not started

Block will testify.

↳ Technical investigation under way
↓ N O E will state how

No selection made.

Promising design

5-7-44
18-11-44 start

NATIONAL SCIENCE FOUNDATION
1800 G STREET, N.W.
WASHINGTON, D.C. 20550

April 30, 1990

Dr. Joe Weber
Department of Physics and
Astronomy
University of Maryland
College Park, MD 20742-4111

Dear Dr. Weber:

Paul Vanden Bout has sent me copies of your letter of April 3, 1990, and his reply to you of April 10, 1990.

The second paragraph of your letter is incorrect. The Joint Working Group on Ground-based Astronomy identified candidate projects for international cooperation. The items identified were:

Large Optical/Infrared Telescopes;
Gravitational-wave Detectors;
Very Long Baseline Interferometry;
Large Earth-based Solar Telescopes; and,
New Astronomies.

The first three items were thought to be "cornerstones;" i.e., very-high-priority major projects essential to the future of the field.

The funding mechanisms for research in ground-based astronomy vary from one country to another. Thus, the Working Group chose to include a wide range of topics considered astronomy with the full understanding that some of them were outside the purview of the National Science Foundation's Division of Astronomical Sciences.

I consider your suggestion that you approach "Erich Bloch in an effort to divert funds now from the interferometers to Astronomy (sic)" to be counterproductive and inappropriate.

Sincerely yours,



Laura P. Bautz, Director
Division of Astronomical Sciences

Copy to: Dr. P. Vanden Bout ✓

Copy to w/Incoming: NSF Division of Physics



NATIONAL RADIO ASTRONOMY OBSERVATORY

EDGEMONT ROAD CHARLOTTESVILLE, VIRGINIA 22903-2475
TELEPHONE 804 296-0211 TWX 910 997-0174 FAX 804 296-0278

April 10, 1990

Dr. Joe Weber
Dept. of Physics and Astronomy
University of Maryland
College Park, MD 20742-4111

Dear Dr. Weber:

Thank you for your letter of April 3 expressing concern over NSF's gravitational wave program and its possible impact on funding for astronomy.

It was appropriate for me to discuss the merits of locating the Laser Interferometer Gravity-Wave Observatory (LIGO) at the NRAO Green Bank WV site in late 1988/early 1989 when I was requested to join discussions between the NSF and the U.S. Senators from West Virginia concerning the future of Green Bank, following the collapse of the 300-foot Telescope. But I do not think it is appropriate for me to offer new, unsolicited comments on the scientific merits and feasibility of a project well-removed from NRAO, despite the potential budget impact on astronomy.

A small point--Dr. Bautz chairs a Joint Working Group for Ground-Based Astronomy that identifies large projects suitable for international cooperation. The report of that group recommended four "cornerstone" projects, of which gravity-wave detectors was one. It is not my understanding that this implies that gravity-wave research is the top priority for U.S. (NSF) astronomy. Perhaps she can clarify this for you.

Sincerely,

A handwritten signature in cursive script that reads "Paul Vanden Bout".

P. A. Vanden Bout
Director

*Info copy Keeghan
Bautz 4/10*



UNIVERSITY OF MARYLAND AT COLLEGE PARK
Department of Physics and Astronomy

April 3, 1990

Dr. P. A. Vanden Bout
Director NRAO
Edgemont Road
Charlottesville, Virginia 22903-2475

Dear Dr. Vanden Bout:

This concerns the Astronomy program and budget. As you know the National Science Foundation is proposing expenditures of about \$200,000,000 for two large interferometers for gravitational radiation astronomy. Two major programs for this project continue to have large funding.

Dr. Laura P. Bautz of the National Science Foundation Astronomy Program has obtained an international agreement that development and construction of the gravitational radiation interferometers should have the highest priority in Astronomy.

I published the theory of the sensitivity of such instruments in 1960 -- both elastic solid antennas and free mass interferometer systems. The elastic solid antenna was assumed to be a large single mass quadrupole.

In 1984 and 1986, a new theory was published which assumed the elastic solid antenna is a large number of atoms coupled by chemical forces. The new theory proves that bar antennas are between a million and a billion times more sensitive relative to interferometers than the 1960 theory predicted. My results were confirmed by a totally independent analysis of University of Milan physicist G. Preparata.

The 1986 theory -- well in advance of Supernova 1987A predicted that elastic solid antennas could see pulses from supernovae at that distance. Such pulses were observed by elastic solid antennas at Maryland and Rome. Large correlations associated with about 12 pulses were observed with the Rome Maryland antennas and neutrino detectors at Mont Blanc, Kamioka, Baksan and IMB. Correlations were also observed with a muon and a surface cosmic ray detector.

Enclosed is the first page of a 31 author reprint. Other publications involving more authors are in press.

It appears to me that present level of funding gravitational interferometers should be reconsidered. If the project continues as planned, it will be at the expense of most research in astronomy.

I have studied your letter of March 14, 1990. It seems very likely that the Interferometer costs will be much greater than early estimates.

I would like to suggest that you and I talk with Erich Bloch. in an effort to divert funds now from the interferometers to Astronomy. Thank you.

Yours truly,


J. Weber

**Analysis of the Data Recorded by the Mont Blanc
Neutrino Detector and by the Maryland
and Rome Gravitational-Wave Detectors during SN1987A.**

M. AGLIETTA, G. BADINO, G. BOLOGNA, C. CASTAGNOLI, A. CASTELLINA
W. FULGIONE, P. GALEOTTI, O. SAAVEDRA, G. TRINCHERO and S. VERNETTO

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V. L. DADYKIN, A. S. MALGUIN, V. G. RYASSNY, O. G. RYAZHSKAYA
V. F. YAKUSHEV and G. T. ZATSEPIN

Institute of Nuclear Research, Academy of Sciences of USSR - Moscow, USSR

D. GRETZ, J. WEBER and G. WILMOT

Department of Physics and Astronomy, University of Maryland, USA

(ricevuto il 6 Settembre 1988)

Summary. — The data recorded by the gravitational wave and the neutrino detectors mentioned in the title have been analysed over a period of several days that includes the Mont Blanc 5v burst occurrence time. A correlation is found during a period of about two hours roughly centred on the 5v burst, independently between Maryland and Mont Blanc and Rome and Mont Blanc. The probability that these two correlations be due to chance is of the order of between 10^{-6} and 10^{-5} . It is found that this effect is mainly due to a dozen of large Maryland and Rome events distributed during the above two-hour period.

PACS 97.60.Bw — Supernovae.

PACS 04.80 — Experimental tests of general relativity and observations of gravitational radiation.