



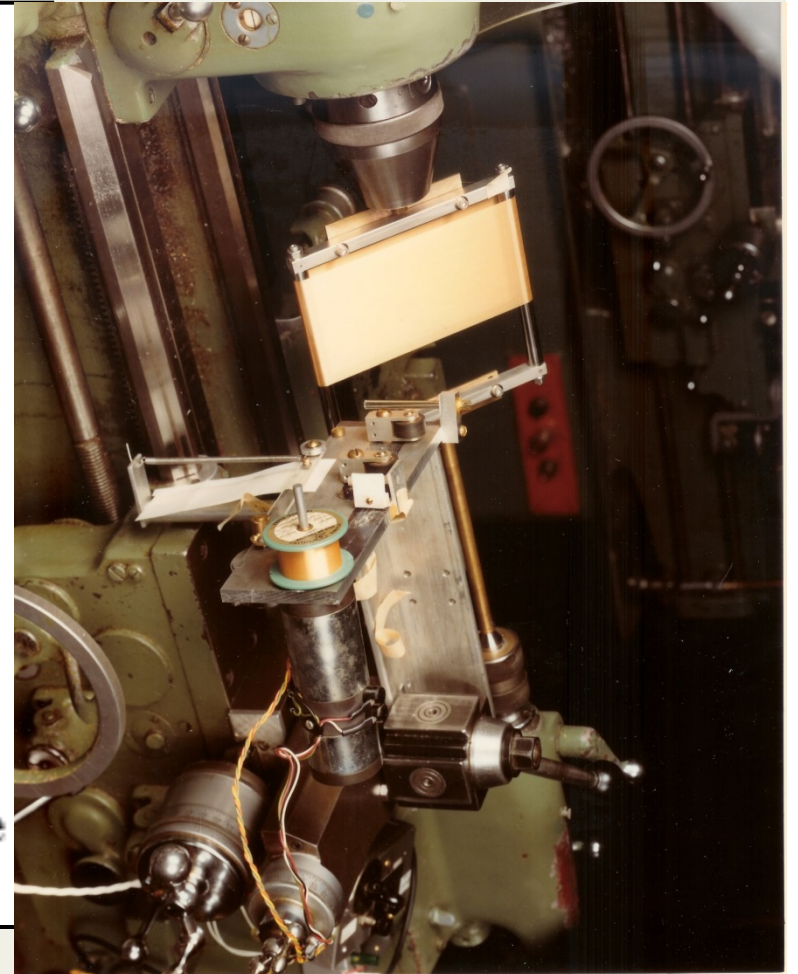
Ned Wright:
Force for
COBE



Proto-FIRAS



Edward (Ned) Wright and David Shoemaker with the COBE FIRAS prototype instrument



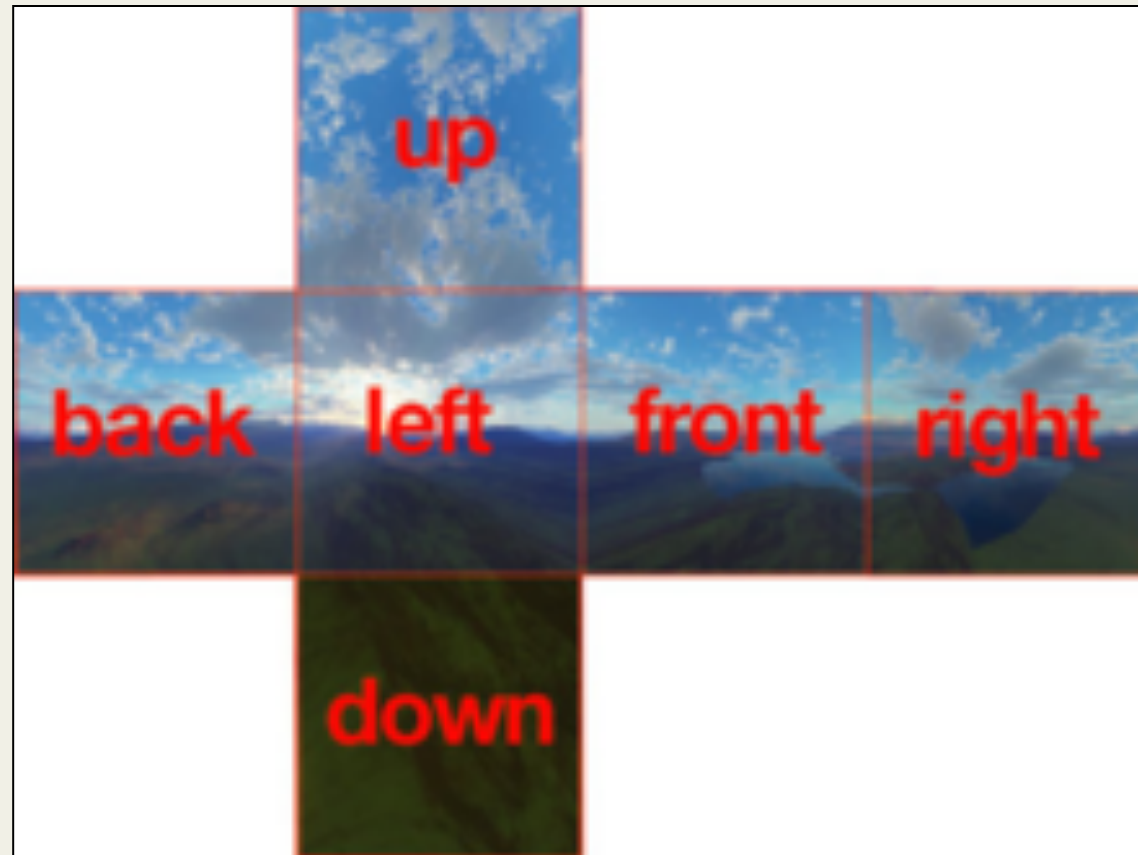
Polarizer winder (Shoemaker)

The Young COBE Science Working Group



Ned Wright: COBE Development Years

The quadrilateralized sphere



Ned Wright: COBE Development Years Data processing solutions

COBE ORBIT DETERMINATION

DIRBE POINTING CORRECTIONS

by Ned Wright 25-AUG-81

COBE POINTING

DIRBE FAKE DATA GENERATOR

ALGORITHM FOR USING

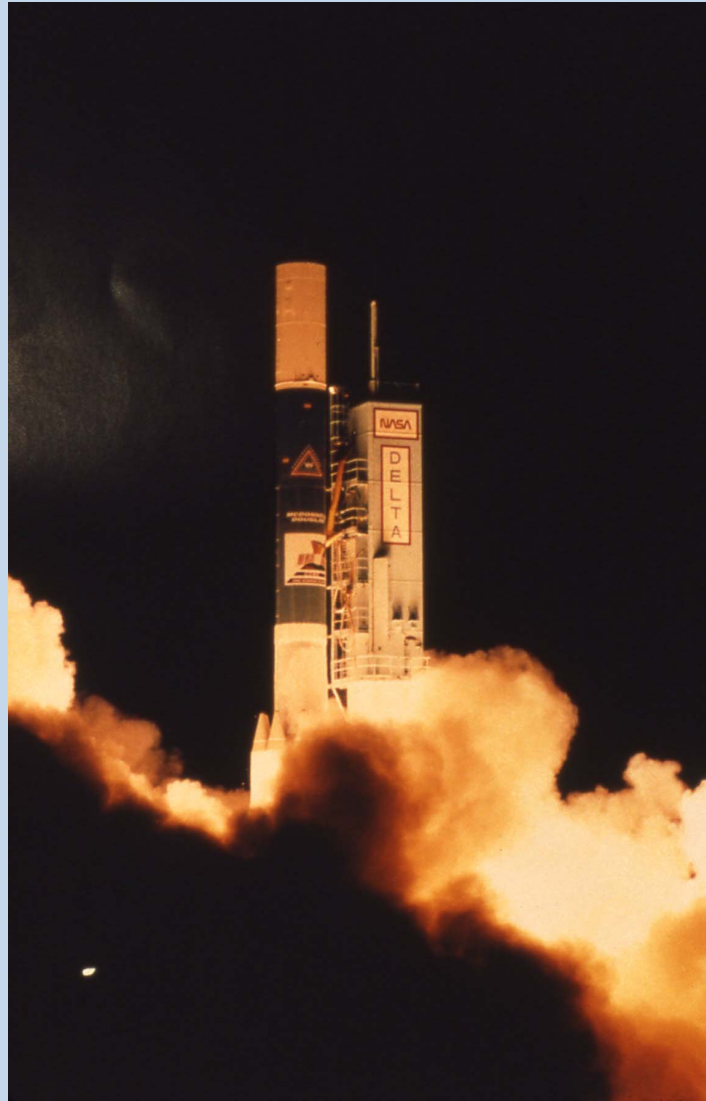
DIRBE to IMPROVE ORIENTATION

SOLUTION EDWARD L. WRIGHT

DIRBE DATA PROCESSING

ROBUST CENTRAL ESTIMATION
USING MINIMAL STORAGE

COBE Launch: Nov. 18, 1989



Ned Tracks COBE



Ned's DMR Analysis: Primordial Anisotropy!

From: BONNIE::WRIGHT

"Ned Wright - (213)825-5755" 17-AUG-19

91 19:18:36.02

To: 6938::CBSWG

CC: WRIGHT

Subj: DMR

COBE SWG only:

8/17/91

I have analyzed the preliminary 1 year DMR maps by making a linear combination to give a "no galaxy" map. The results are presented here, and are quite consistent with unbiased CDM. There is probably a real quadrupole in the data.

Ned Wright, Oct. 1991 draft

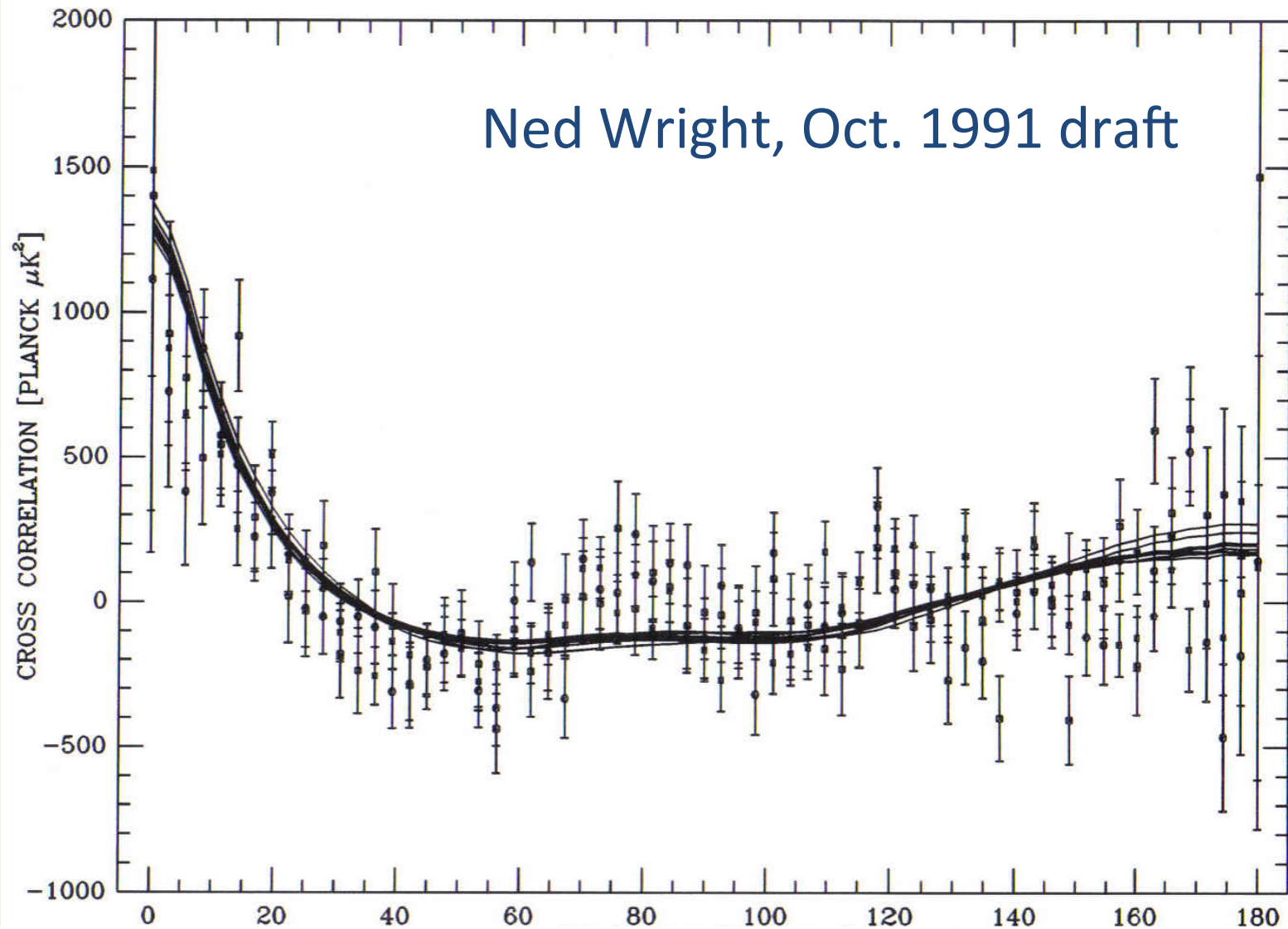


Figure 3: Cross-correlations for $|b| > 30^\circ$ between the 53A & 53B (filled squares), 53A & 90B (filled circles), and the 53B & 90B (open squares), plus Monte Carlo predictions for a scale invariant spectrum with an expected quadrupole amplitude of $17 \mu\text{K}$

Ned's 1991 Draft Anisotropy *Letter*

Probable Detection of Cosmic Anisotropy by the Cosmic Background Explorer (COBE) ¹

2

ABSTRACT

The Differential Microwave Radiometers (DMR) experiment on the COsmic Background Explorer (COBE) has seen a statistically significant anisotropy in the 2.73 K background radiation. The RMS amplitude of the sky, smoothed with a 10° beam, is $32 \pm 4 \mu\text{K}$ after the dipole is removed. The RMS quadrupole is $13 \pm 2 \mu\text{K}$ in the region with galactic latitude $|b| > 20^\circ$. A scale-invariant or Harrison-Zeldovich spectrum is consistent with these values, and the best fitting amplitude for this spectrum gives an expected RMS quadrupole of 17 ± 1.2 (statistical) ± 5 (systematic), where the dominant systematic uncertainty is galactic flux. This anisotropy seen by COBE is consistent with an unbiased cold dark matter model, with $H_0 = 50$, $\Omega_B = 0.1$, and $\Omega_{CDM} = 0.9$, which predicts an RMS quadrupole of $16 \mu\text{K}$.

First DIRBE Cosmic Infrared Background Papers

O “The COBE Diffuse Infrared Background Experiment Search for the Cosmic Infrared Background: I. Limits and Detections”, M. G. Hauser, and **E. L. Wright**, 1998, ApJ, 508, 25.

O “The COBE Diffuse Infrared Background Experiment Search for the Cosmic Infrared Background: II. Model of the Interplanetary Dust Cloud”, T. Kelsall, and **E. L. Wright**, 1998, ApJ, 508, 44.

O “The COBE Diffuse Infrared Background Experiment Search for the Cosmic Infrared Background: III. Separation of the Galactic Emission from the Infrared Sky Brightness”, R. G. Arendt, and **E. L. Wright**, 1998, ApJ, 508, 74.

O “The COBE Diffuse Infrared Background Experiment Search for the Cosmic Infrared Background: IV. Cosmological Implications”, E. Dwek, ..., **E. L. Wright**,, 1998, ApJ, 508, 106.

Ned's Relentless Pursuit of the Cosmic Infrared Background

Wright, E. L. 2001, ApJ, 553, 538, "DIRBE Minus 2MASS: Confirming the Cosmic Infrared Background at 2.2 Microns".

Wright, E. L. & Reese, E. D. 2000, ApJ, 545, 43, "Detection of the Cosmic Infrared Background at 2.2 and 3.5 microns Using DIRBE Observations".

Gorjian, V., Wright, E. L. & Chary, R. R. 2000, ApJ, 536, 550. "Tentative Detection of the Cosmic Infrared Background at 2.2 and 3.5 microns Using Ground Based and Space Based Observations".

Wright, E. L. 1998, ApJ, 496, 1-8. "Angular Power Spectra of the COBE DIRBE Maps"

Wright, Edward L. 2001, IAU Symposium 204, 157. "Fitting Zodiacal Models"

Fun in Stockholm, December 2006

Grand Hotel Stockholm





Nordic Museum
Nobel Eve

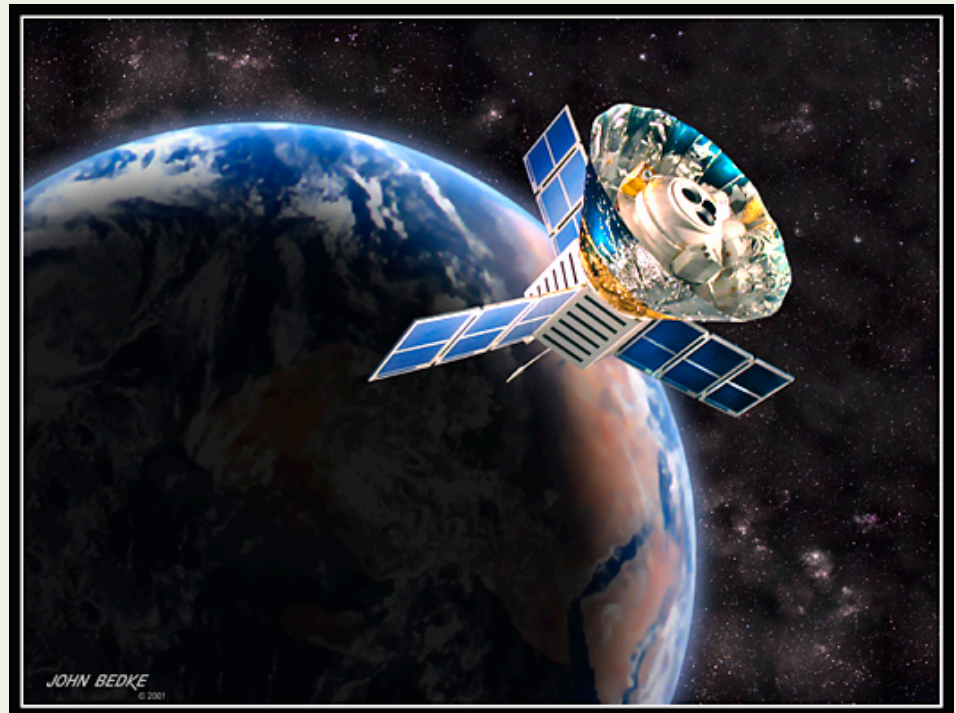


Dec. 10, 2016
Grand Hotel Stockholm

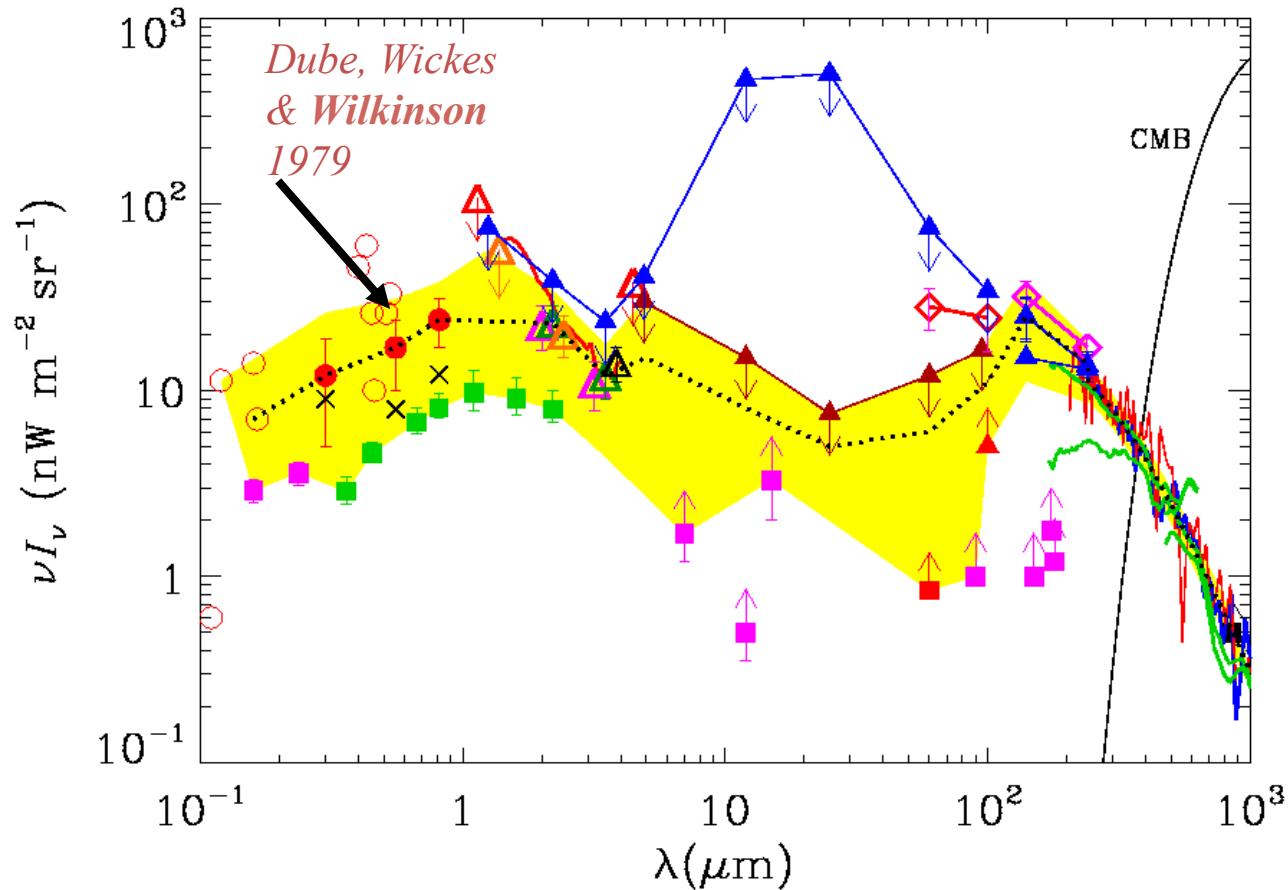




Ned Wright: Force for COBE



EBL Detections and Limits, 2001



- ▲ CIB (DIRBE)
- ▲ CIB (DIRBE fluctuations)
- CIB (FIRAS)
- IRAS counts
- ISO counts
- SCUBA counts
- Opt-NIR counts
- EBL (HST+LCO)
- ... Nominal EBL
- EBL limits

Nordic Museum, Nobel Eve



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