

#93-3

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

HAYSTACK OBSERVATORY

WESTFORD, MASSACHUSETTS 01886

22 April 1993

Telephone: 508-692-4764

Fax: 617-981-0590

To: Holographers
From: Alan E.E. Rogers *A.E.R.*
Subject: Calculated focus, beamwidth and lateral translation

The attached figure gives the calculated "tuning" curves for -10 dB illumination taper. The calculated beamwidth of 24 arcseconds is significantly narrower than the measured beamwidth of 27 arcsec quoted in our IEEE paper. More than 20 dB taper is needed to approach 27 arcseconds indicating that the rather low efficiency is largely the result of poor performance in the outer regions of the dish. As you may recall the sunscans indicate that there is more small scale roughness in the outer regions and this may be a major contributor to the rms towards the edge of the dish.

Distribution:

J. Ball	J. Crowley	J. Salah
R. Barvainis	A. Haschick	P. Shute
R. Cady	R. Ingalls	A. Whitney
J. Cannon	C. Lonsdale	M. Zarghamee
J. Carter	S. Milner	
P. Charpentier	S. Murray	
B. Corey	A. Rogers	

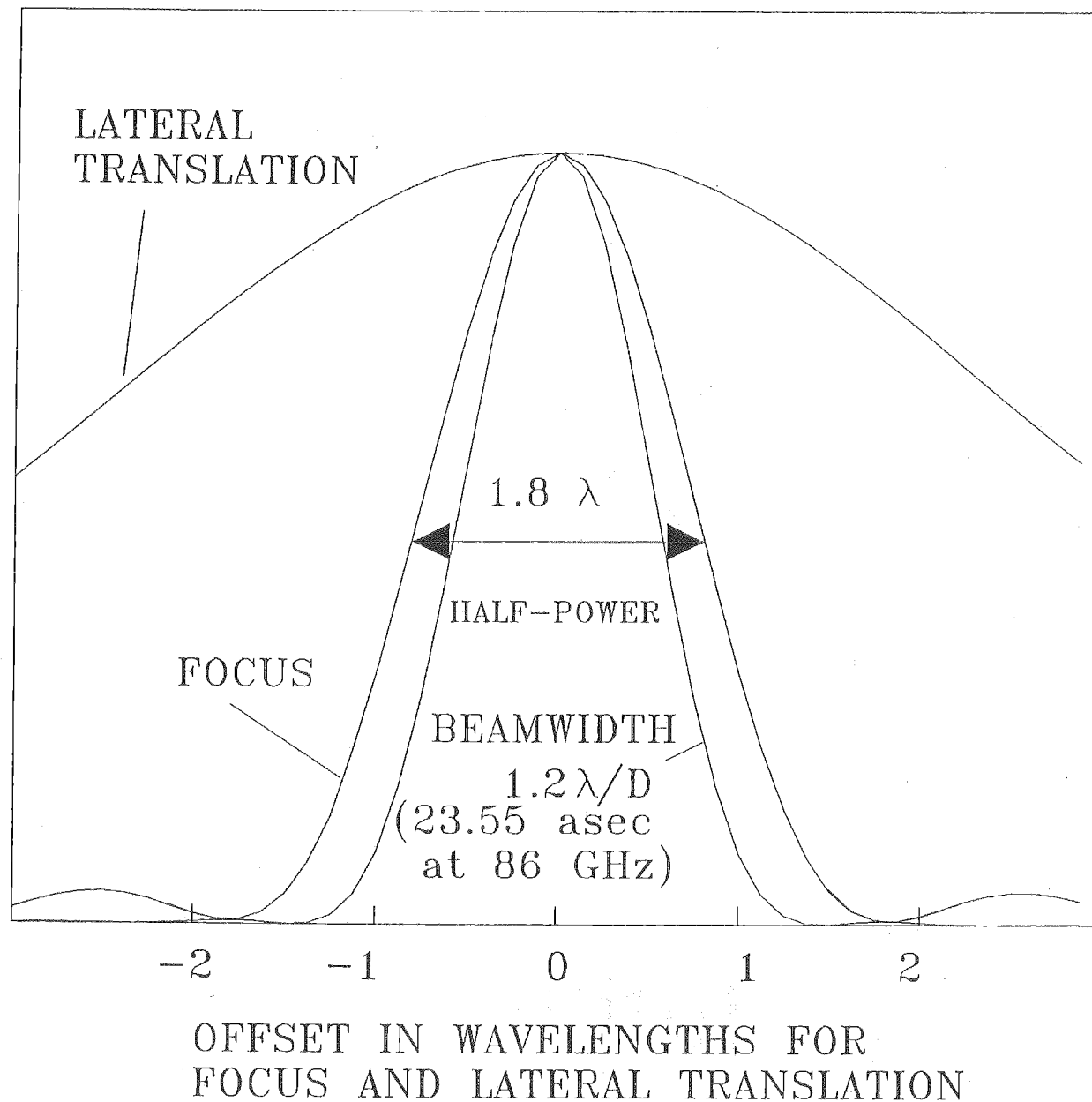


Fig. Calculated "tuning" curves for -10 dB taper