

THE IZAÑA COSMIC MICROWAVE BACKGROUND FLUCTUATIONS EXPERIMENT: A PROGRESS REPORT.

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ABSTRACT. The Jodrell-IAC anisotropy experiment operating with twin 8° beams at 10.45 GHz over a two-year period, produced the reported limit of $\delta T/T \leq 3.7 \times 10^{-5}$ (Davies et al., 1987: Nature 326, 462). Given the ability of this angular scale to strongly constrain cosmological models, it was decided to continue and expand the experiment by extending the horns to reduce the beam-size to 5° , while retaining the 8° separation. This improves the sensitivity to fluctuations by extending the angular range and decreasing beam-smearing.

The aim of the new experiment is to produce scans in two declination bands (-5° to $+5^\circ$ and $+35^\circ$ to $+45^\circ$ in 2.5° steps) of the same or improved sensitivity as before. To date the declination 0° scan has the deepest coverage. Figure 1 shows the complete scan and Figure 2 the section of densest data coverage with 1 sigma error-bars. The best limit we can set at the moment without using maximum likelihood statistics is $\delta T/T \leq 8 \times 10^{-5}$.



