

DESIGN AND INITIAL OPTIMISATION OF A BROADBAND (6.5-18 GHz) CHIRPED-PULSE, FOURIER TRANSFORM MICROWAVE SPECTROMETER

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A chirped-pulse, Fourier transform microwave spectrometer has been constructed to allow the measurement of broadband microwave spectra from 6.5 GHz to 18 GHz. The design of the new instrument, developed from the original model of Pate and co-workers, and the results of tests using different experimental conditions and a wide range of molecules will be described. The PGOPHER program has been applied to fit broadband microwave spectra and some illustrative examples which demonstrate the usefulness of this program will be presented.