

Abstract Submitted
for the OSF19 Meeting of
The American Physical Society

Hornless Chirped Pulse Fourier Transform Microwave Spectrometer CHRISTOPHER DEWBERRY, JOHN KOPP, EMILY DUNKEL, BRENDAN BEAVER, Kettering University, NICHOLAS KNOWLES¹, Michigan State University, DEWBERRY RESEARCH GROUP TEAM — Broadband horn antennas have been used for Fourier transform microwave spectroscopy for a little over a decade. In this presentation, we will show a more cost effective alternative as well as describe several improvements done to the tandem cavity / chirped pulse FTMW to expand its capabilities. These improvements include 3D printed fractal antenna designs, a double-bladed iris for absorbing microwaves, and mirror design optimized for the low frequency region. Discussions will be made for making FTMW an analytical tool that could be incorporated in university teaching labs.

¹All work done relevant to this presentation done while at Kettering University

Brendan Beaver
Kettering University

Date submitted: 24 Sep 2019

Electronic form version 1.4