

## VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



Contribution ID: 91

Type: **not specified**

### **ÁULIDE MARTÍNEZ: Bessel beam propagation in calcium vapor and conical emission.**

*Wednesday, 19 February 2020 18:45 (15 minutes)*

We have observed anomalous conical emission from the first resonant transition of calcium ( $\lambda_{ca}=422.67\text{nm}$ ) using two types of laser beam, Gaussian and zeroth-order Bessel beams. We used the third harmonic of a Nd:YAG laser to pump a homemade tunable dye laser to excite the transition, and a  $1^\circ$  axicon to produce the Bessel beams. The conical emission featured different half-angles for the same wavelength as a function of the excitation beam. The results of our experiments support conical emission models based upon four-wave mixing, and we believe this is due to the fact we have modified the phase-matching condition with the zeroth-order Bessel beam wave vector.

**Session Classification:** SHORT TALKS

**Track Classification:** SYMPOSIUM ON LASER ABLATION