CAVITY AND CHIRPED PULSE ROTATIONAL SPECTRUM OF THE LASER ABLATION SYNTHESIZED, OPEN-SHELL MOLECULE TIN MONOCHLORIDE, SnCl.[a]

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The use of laser ablation source-equipped chirped pulse and Balle-Flygare type cavity spectrometers have been utilized to accurately measure multiple isotopologues of the tin monochloride molecule in the $X^2\Pi_{\frac{1}{2}}$ state. The molecule has been synthesized by ablating tin foil in the presence of 0.3% Cl_2 in Ar. Rotational constants, nuclear electric quadrupole coupling constants, and magnetic hyperfine constants for the many isotopologues will be discussed. Although rotational analyses of this molecule have been previously performed[b], this is the first high-resolution, microwave study of SnCl.

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[b] N. Badowski, W. Zyrnicki and J. Borkowska, *J. Phys. B: At. Mol. Phys.* **20** (1987), 5931-5937