

## HIGH-RESOLUTION INFRARED SPECTROSCOPY OF THE (1, 0, 1) – (0, 0, 0) BAND OF C<sub>3</sub>

S. THORWIRTH, J. KRIEG, I. KEPPELER, V. LUTTER, S. SCHLEMMER, T. F. GIESEN, *I. Physikalisches Institut, Universität zu Köln, 50937 Köln, Germany*; M. E. HARDING, *Karlsruher Institut für Technologie, Institut für Nanotechnologie, 76021 Karlsruhe, Germany*; J. VÁZQUEZ, *Center for Theoretical Chemistry, Department of Chemistry and Biochemistry, The University of Texas at Austin, Austin, Texas 78712, U.S.A.*

Using the carbon cluster experiment at Cologne in combination with a home-made optical parametric oscillator operating at three microns, the (1, 0, 1) – (0, 0, 0) combination band of the C<sub>3</sub> cluster has been investigated around 3260 cm<sup>-1</sup>. In addition, the associated (1, 1, 1) – (0, 1, 0) hot band has been observed. Using sample rods enriched in <sup>13</sup>C, the (1, 0, 1) – (0, 0, 0) band was also studied for the two isotopologs <sup>13</sup>CCC and C<sup>13</sup>CC. The experimental molecular parameters obtained compare very favorably with results from coupled-cluster calculations.