

## GERMANIUM DICARBIDE: EVIDENCE FOR A T-SHAPED GROUND STATE STRUCTURE

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The preferred equilibrium structure of germanium dicarbide ( $\text{GeC}_2$ ) has been an open question for decades: while high-level quantum chemical calculations predict an L-shaped ground state structure, the very flat potential energy surface of the species prevents a T-shaped structure from being entirely ruled out<sup>1</sup>. By recording for the first time the rotational spectrum of  $\text{GeC}_2$  using sensitive microwave and millimeter techniques, we establish that the molecule adopts a vibrationally-averaged T-shaped structure in the ground state. From isotopic substitution of 14 isotopologues, a precise  $r_0$  structure has been derived. This structural work should serve as an important benchmark for future calculations.

<sup>1</sup> Sari et al., *J. Chem. Phys.* **117** 10008 (2002)