

## OPTICAL-OPTICAL DOUBLE RESONANCE AND CAVITY RING-DOWN STUDIES ON THIOPHOSGENE

DAVID C. MOULE, *Department of Chemistry, Brock University, St Catharines, ON, L2S3A1*; EDWARD C. LIM and HAISHENG LIU, *Department of Chemistry, Knight Chemical Laboratory, University of Akron, Akron, OH, 44325-3601*; and RICHARD H. JUDGE, *Department of Chemistry, University of Wisconsin-Parkside, Kenosha, WI 53141-2000*.

The first triplet electronic state of thiophosgene,  $\text{Cl}_2\text{CS}$ , has been studied by cavity ring-down absorption and OODR pump-probe methods. Under pulse amplified ring-laser conditions the OODR spectrum displays a simple yet unexpected line structure. Our analyses suggests that these lines can be attributed to the  $J=0$  and  $J=1$  rotational levels of the triplet state that do not undergo a rapid intersystem crossing to the high vibrational levels of the singlet ground electronic state.