

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Molecular rotational constants measured with photoelectron ionization yield GAMZE KAYA, NECATI KAYA, NATHAN HART, MUHAMMED SAYRAC, SUNIL ANUMULA, Texas A&M Univ, JAMES STROHABER, Florida A&M University, ALEXANDRE KOLOMENSKII, HANS SCHUESSLER, Texas A&M Univ — We determined rotational constants of linear molecules by measuring the electron photoionization yields with the femtosecond pump-probe technique. By creating a rotational wave packet with linearly polarized pump pulse in N_2 , O_2 , CO_2 , CO , and C_2H_2 molecules, we measured the temporal evolution of the photoelectron yield produced by the probe pulse with variable delay. The positions of the peaks and the rotational constants derived from the rotational revival periods of linear molecules are in good agreement with the literature values. This work was supported by the Robert A. Welch Foundation grant No. A1546 and the Qatar Foundation under the grant NPRP 5-994-1-172.

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Date submitted: 01 Oct 2014

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