Abstract Submitted
for the DAMOP19 Meeting of
The American Physical Society

Dominance of correlation and relativistic effects on photodetachment time delay well above threshold. SOUMYAJIT SAHA, IIT-Madras, PRANAWA DESHMUKH, IIT-Tirupati, ANATOLI KHEIFETS, Australian National University, STEVEN MANSON, Georgia State University — Wigner time delay [1] in photodetachment from the $3p_{3/2}$ and $3p_{1/2}$ subshells of Cl have been studied in the vicinity of the $2p_{3/2}$ and $2p_{1/2}$ thresholds, using the relativistic-random-phase approximation (RRPA). The results show time delay spectra dominated by many-body correlations along with very complicated dependence on the energy over a broad energy range. In addition, the time delay spectra of the two spin-orbit split $3p$subshells differ significantly from one another, thereby revealing the importance of relativistic effects even in the case of a low-Z system. Work partially supported by SERB (India) and the US DOE. [1] E. P. Wigner, Phys. Rev. **98**, 145 (1955).

Steven Manson
Georgia State University

Date submitted: 28 Jan 2019 Electronic form version 1.4