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**Effect of Coulomb attraction on low-energy structure of ATI spectra**[1] DMITRY TELNOV, St. Petersburg State University, Russia, SHIH-I CHU, University of Kansas — Recent experimental observations of above-threshold ionization (ATI) of rare gas atoms and diatomic molecules by mid-infrared laser fields revealed a prominent maximum in the electron energy spectrum very close to the ionization threshold. This low-energy structure (LES) cannot be reproduced by the widely used Keldysh- Faisal-Reiss theories. We have performed a theoretical analysis and fully *ab initio* precision calculations for the hydrogen atom. Our results show that LES is related to the effect of Coulomb attraction in the final state of the electron. The probability density of slow electrons is condensed in the vicinity of the nucleus favoring the ionization process. As a result, the ATI electron energy spectrum increases when approaching the threshold. Our numerical data on the hydrogen atom show a maximum in the energy distribution close to the threshold, similar to the low-energy structure revealed by the experiments.

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