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ATOMIC STRUCTURE AND DYNAMIC PROCESS IN IDEAL AND NON-IDEAL PLASMA WITH PROF. RATKO JANEV

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Abstract. Atomic levels and electronic wave-functions including bound and continuum states are affected by plasmas shielding influence. And thus the physical quantum relevant to the atomic levels and electronic wave-functions demonstrated the remarkable changes. Since the year of 2008, Prof. Janev has suggested and mentored our group in China to perform comprehensive investigations of plasma shielding effects on atomic physics. Prof. Janev congratulated on the publication of my work about bound-bound process in ideal plasmas in PRA 2008, I still remembered his smile. Lots of important and coauthored works have been published in the past decade to reveal the importance of plasma screening effects on atomic electronic structure, photon excitation and ionization, electron/positron impact excitation and ionization, and excitation, ionization and charge transfer of ion-atom/ion collisions. In this talk, we will review the shift of the atomic energy levels and the changes of the physical quantum and spectrum parameters in ideal and non-ideal plasma environments collaborated with Prof. Janev.

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