

Abstract Submitted
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Electronic Structure Calculations of Highly Charged Ions STEVE BROMLEY, MARCIN ZIOLKOWSKI, JOAN MARLER, Clemson University — Exotic systems like Highly Charged Ions (HCIs) are attracting more attention based on their properties and possible interactions. Abundance of HCIs in the solar wind and their interaction with the upper atmosphere puts them in the attention of astro- and atmospheric physicists. Also, their unique properties originating in the high charge make them an excellent candidate for precision measurements and the next generation of atomic clocks. For a better understanding of the dynamics of processes involving HCIs a combined theoretical and experimental effort is needed to study their basic properties and interactions. Both theory and experiment need to be combined due to the extreme nature of these systems. We present preliminary insight into electronic structure of light HCIs, their interactions with neutral atoms and dynamics of charge transfer processes.

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