

Abstract Submitted
for the DAMOP05 Meeting of
The American Physical Society

Sorting Category: 1. (T)

Signature of chaos in high-lying doubly-excited two-electron atoms¹ ANH-THU LE, Department of Physics, Kansas State University, TORU MORISHITA, University of Electro-Communications, Japan, XIAO-MIN TONG, CHII-DONG LIN, Department of Physics, Kansas State University — Recently proposed diabaticization and truncation techniques are used in solving Schrödinger equation for two-electron systems. Within this method, it is easy to obtain relatively high accurate energy levels for doubly-excited states of a given symmetry. Nearest-neighbor spacings (NNS) statistics of the energy levels are performed for real 3D helium atom below ionization threshold I_{20} . The ss model of helium-like ions are also used, which allows us to analyze NNS up to I_{35} . We show evidence of the transition towards Wigner distribution as the energy range gets closer to double-ionization threshold.

¹This work was supported in part by the US DOE

Prefer Oral Session
 Prefer Poster Session

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Date submitted: 27 Jan 2005

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