Abstract Submitted
for the GEC11 Meeting of
The American Physical Society

Oscillations in the autoionization energy distribution of He2+ + H2 double capture collisions R.O. BARRACHINA, Centro Atomico Bariloche, 8400 Bariloche, Rio Negro, Argentina, B.S. FRANKLAND, J.-Y. CHESNEL, F. FREMONT, Centre de Recherche sur les Ions, les Materiaux et la Photonique, 6 Bd Marechal Juin, 14050 Caen cedex 04, France — The present study extends previous results in which the autoionization spectra in double capture He2+ + H2 collisions at low impact energies were observed to oscillate in angle. This effect was ascribed to a Young-type interference by the emitted electron acting on the two protons in a way analogous to a double-slit system. Now, a detailed analysis of the autoionizing 2s2 1S state by means of a Fast Fourier Transformation has revealed oscillations in the Auger energy distribution. The possible origin of this periodic structure is discussed, and shown to be essentially different from that previously observed in the angular distribution.

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Date submitted: 13 Jul 2011 Electronic form version 1.4