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Adiabatic Floquet representation of atomic systems[1] J.V. HERNÁNDEZ, YUJUN WANG, B.D. ESRY, J.R. Macdonald Laboratory, Kansas State University — The adiabatic Floquet method has been successfully used to study simple molecular systems such as H_2^+ for several years now. This poster presents an adiabatic Floquet picture for atomic systems. Adiabatic potential curves are thus generated for both atomic hydrogen and helium that incorporate the laser field nonperturbatively. As for H_2^+, these potentials can be used to develop an intuitive picture of atomic multiphoton processes. We also show how the potentials can be produced for two-color pulses. Numerical solutions of the time-dependent Schrödinger equation are interpreted using the adiabatic Floquet potentials to gauge the utility of this new representation.

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