

POSITIVE ENERGY STURMIAN STATES FOR TWO-COULOMB-CENTER PROBLEMS¹

S. Yu. Ovchinnikov², J. H. Macek³

Properties of two-center Coulomb Sturmian basis sets are discussed. Analytic and numerical techniques to calculate these functions and coupling matrix elements are developed. A class of Sturmian functions is found that has no analytic continuation to negative energies and is not present in one-center potentials. Advantages of Sturmian sets over conventional eigenstate sets are emphasized.

¹Abstract of published paper: *Phys. Rev. A* **55**, 3605 (1997).

²Guest assignee from University of Tennessee, Knoxville.

³UT-ORNL Distinguished Scientist.