

Evaluating Sulfur as a P-type Dopant in Cu₃N Using Ab initio Methods

Sajjad A. Alqunais ^a, Md Maidul Islam ^{a*}, B. B. Dumre ^b,

S. V. Khare ^b, Daniel G. Georgiev ^a

^aDepartment of Electrical Engineering and Computer Science, University of Toledo, Toledo, OH 43606, USA

^bDepartment of Physics and Astronomy, and Wright Center for Photovoltaics Innovation and Commercialization (PVIC), University of Toledo, Toledo, OH 43606, USA

***Corresponding Author:** Md Maidul Islam (mdmaidul.islam@rockets.utoledo.edu)

Supplementary Material

Figure S1. PDOS of Cu₃N:S alloy with a -2 charge + Hubbard

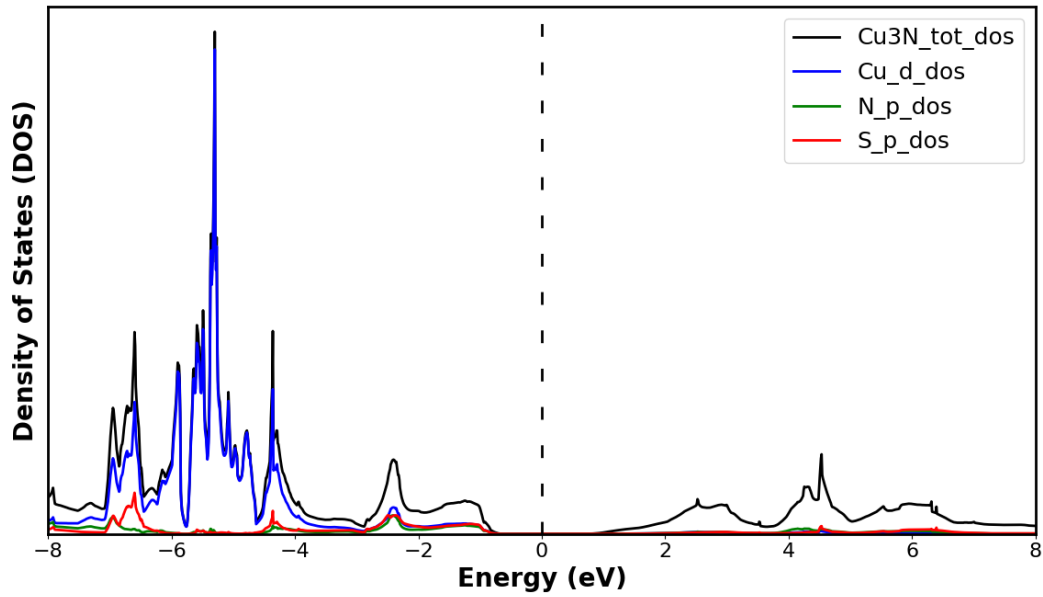


Figure S2. Absorption coefficient of Cu₃N: Hubbard calculation

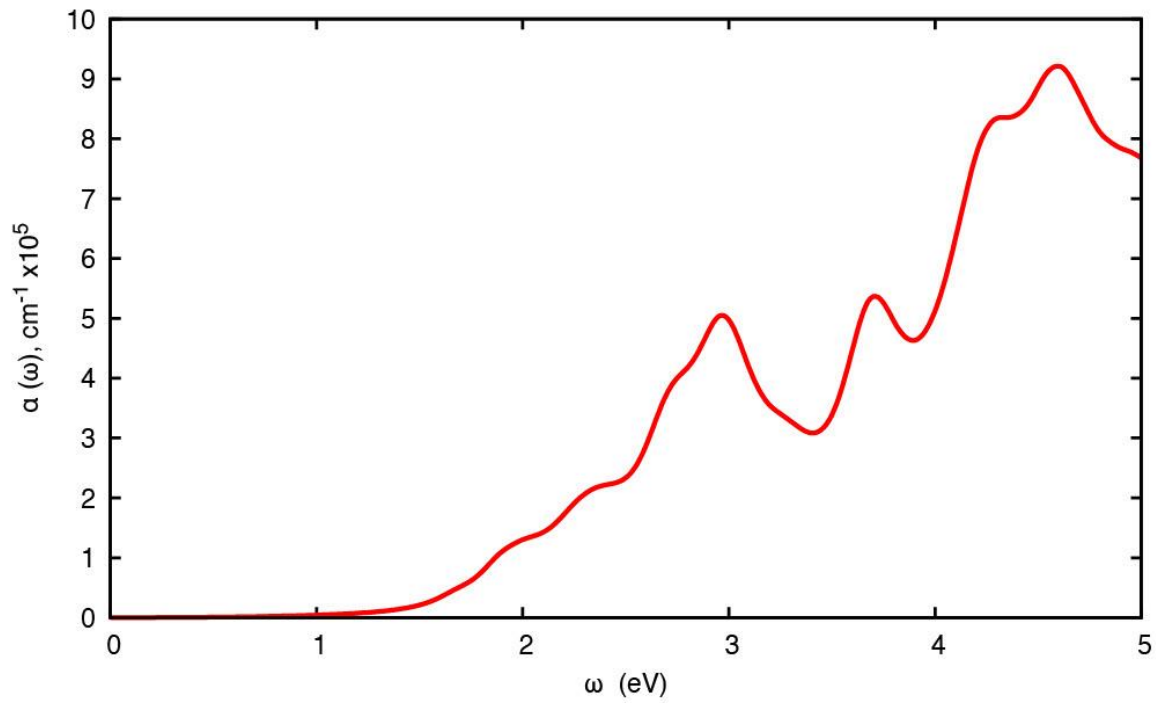


Figure S3. Band structure of intrinsic Cu_3N in the supercell configuration using Hubbard.

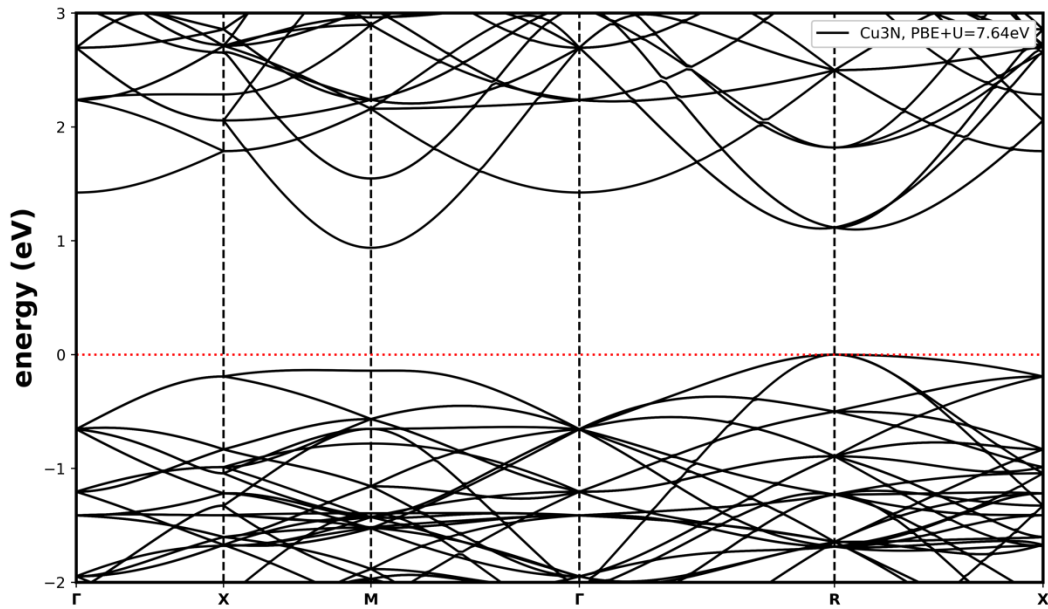


Figure S4. Band structure of sulfur-doped Cu_3N in the supercell configuration using Hubbard.

