

Synergistic Effects of K-Atom Rattling, Anisotropy, and Antibonding States on High Thermoelectric Performance in KAuSe_2

Jiayao Wang,[†] Luman Shang,[†] Shuming Zeng,[‡] Yu Wu,^{*,†} and Chenhan Liu^{*,†}

[†]*Advanced Thermal Management Technology and Functional Materials Laboratory,
Ministry of Education Key Laboratory of NSLSCS, School of Energy and Mechanical
Engineering, Nanjing Normal University, Nanjing 210023, P. R. China*

[‡]*College of Physics Science and Technology, Yangzhou University, Jiangsu, Yangzhou
225009, China*

E-mail: wuyu@njnu.edu.cn; chenhanliu@njnu.edu.cn

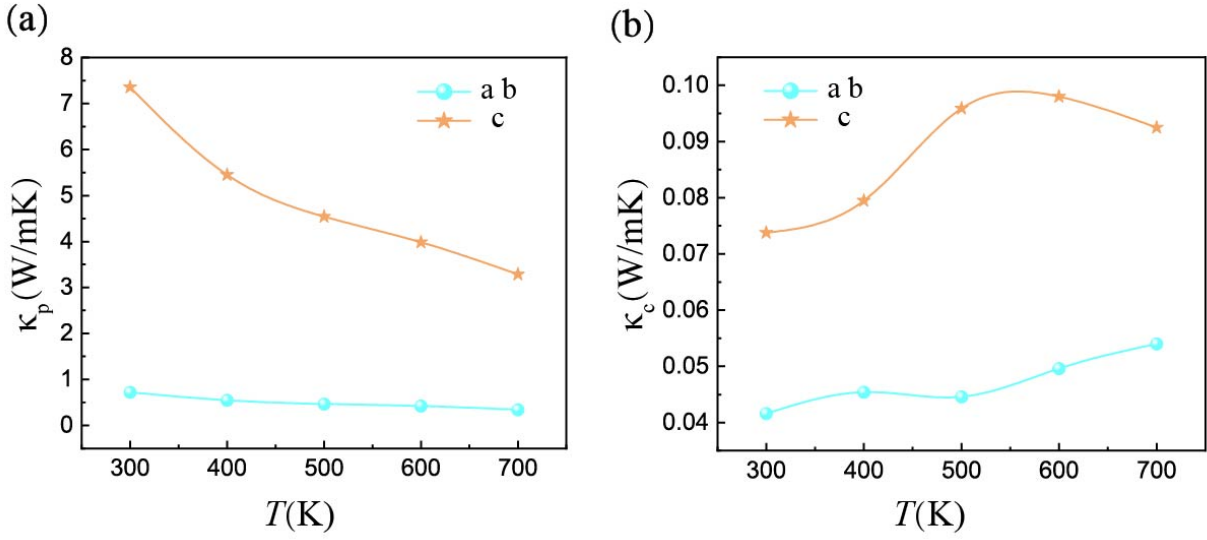


Figure 1: Calculated temperature-dependent (a) κ_p , (b) κ_c considering 3+4ph scattering along different directions.

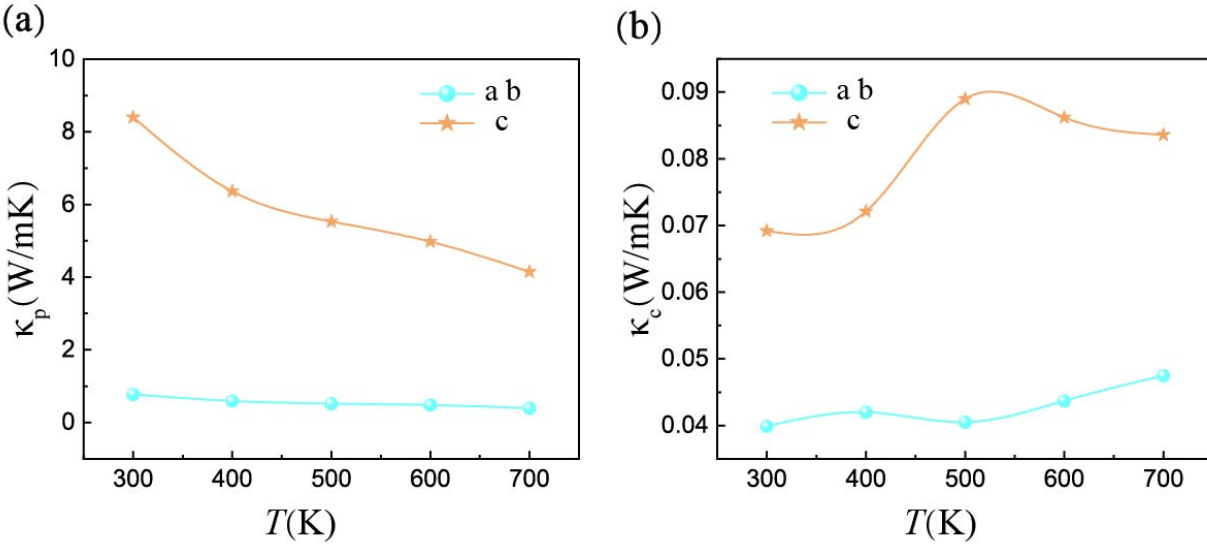


Figure 2: Calculated temperature-dependent (a) κ_p , (b) κ_c considering 3ph scattering along different directions.

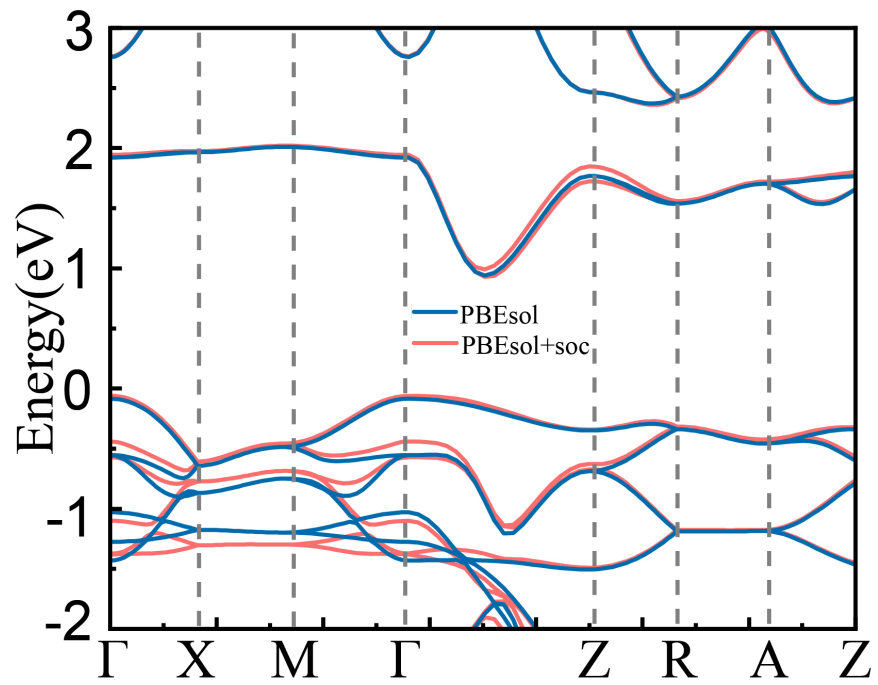


Figure 3: Comparison of PBEsol (blue line) and PBEsol+SOC (red line) electronic band structures.