

Tamm Plasmon Polaritons: UV to NIR

National Chiao Tung Univ.¹, Kuo-Ping Chen¹

E-mail: kpchen@nctu.edu.tw

Tamm plasmon polariton (TPP) is proposed to demonstrate the ultra-sharp resonance and strong fields confinement. Different applications from UV to NIR are presented, including selective thermal emissions, UV lasers, chirality mirrors, sensors, etc. A DBR-side TPP structure can overcome the limitations of the intrinsic property of the metal, which can support a stronger and narrower TPP resonance. The lithography-free, low cost, and refractory feature of the DBR-side TPP structures pave more possibilities for applications in nanophotonics.

Reference

- [1] Yang, Zih-Ying, et al. "Narrowband wavelength selective thermal emitters by confined tamm plasmon polaritons." *ACS Photonics* 4.9 (2017): 2212-2219.
- [2] Chang, C.-Y., et al., *IEEE J. Sel. Topics Quantum Electron.* 21 (2015), 262-267.
- [3] Yang, Z.-y., et al., *Opt. Lett.* 41 (2016), 4453-4456.