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Edge state and photon emission rate in plasmon chains CHI WAI LING, KIN HUNG FUNG, SIU FUNG YU, Hong Kong Polytech Univ — Topology band theory has explained many important electronic phenomena in condensed matter physics, like quantum hall effect and topological insulators. We consider realistic plasmonic nanoparticles as strongly coupled “atoms” and study the topological properties in the plasmon bands. Zak phase and edge state frequency in chains of plasmonic nanoparticles are studied analytically. Photon emission rate enhanced by such an edge state is also analyzed by solving the Maxwell’s equations using FDTD method.

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