Electronic Supplementary Information (ESI)

Antimonene: a monolayer material for ultraviolet optic nanodevices

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Fig. S1 Comparison of the electronic densities of states (DOS) of two antimonene allotropes $\alpha$-Sb (up) and $\beta$-Sb (down) obtained using PBE and HSE06 functionals with and without the spin-orbit coupling.
**Fig. S2** The real and imaginary parts of complex dielectric function along with the refractive index $n(\omega)$ and extinction coefficient $K(\omega)$ of $\alpha$-Sb (left) and $\beta$-Sb (right) monolayers obtained using PBE and HSE06 functionals with and without the spin-orbit coupling.
Fig. S3 The absorption coefficient $I(\omega)$, energy loss spectrum $L(\omega)$ and reflectivity $R(\omega)$ of $\alpha$-Sb (left) and $\beta$-Sb (right) monolayers obtained using PBE and HSE06 functionals with and without the spin-orbit coupling. The unit of absorption coefficient is $10^5$/cm.