Supplemental Materials

Spin-dependent Seebeck effect in zigzag-edge antimonene nanoribbons

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Table S1. Formation energy of ZANRs width various widths.

Structure	ZANR4	ZANR5	ZANR6	ZANR7	ZANR8	ZANR9
E*f* (eV/atom)	-0.319	-0.314	-0.266	-0.229	-0.196	

The formation energy of the bare nanoribbons are calculated using the following formula [*Physica E 2018*, *97*, *98-104*]:

$$E_f = 1/N_{\mathrm{Sb}} \left(E_{\mathrm{bare}} - N_{\mathrm{Sb}} E_{\mathrm{Sb}}\right)$$

Where N_{Sb} and E_{Sb} refer to the total number of antimony atoms and the energy of a single antimony atom in the bare ZANR, respectively. E_{bare} represents the total energy of the bare ZANR.

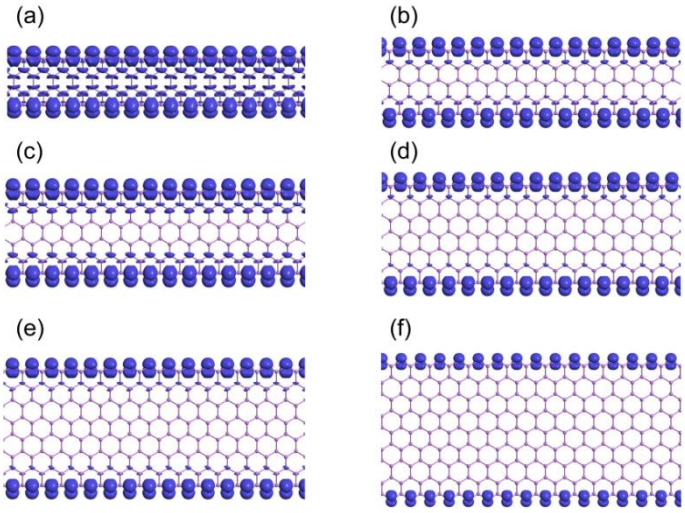

Figure S1 (a-b) The spatial distribution of local density of states (LDOS) in ZANR with widths from 4 to 9. The value of isosurfaces is 0.5e-7 $Å^{-3}$ eV^{-1} for spin difference density ($\rho_{\uparrow}$-$\rho_{\downarrow}$).

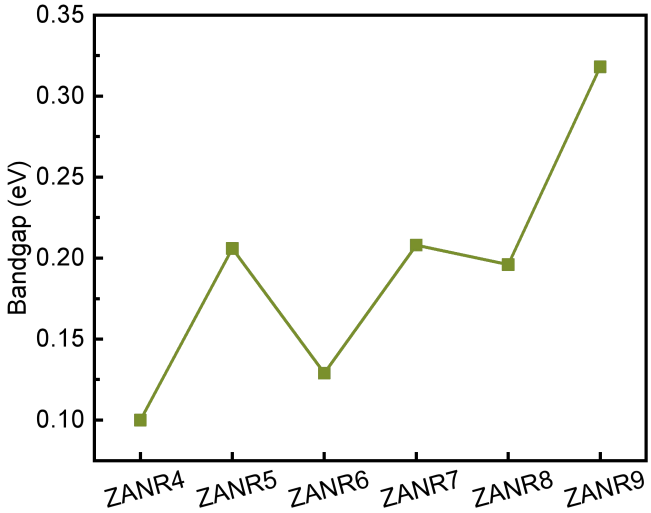

Figure S2 The bandgap of ZANRs width various widths.