

Phonon Dynamic Behaviors Induced by Amorphous Layer at Heterointerfaces

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S1. Stillinger-Weber potential for GaN/AlN heterostructure

S2. Quantitative analysis for polarization conversion

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S1. Stillinger-Weber potential for GaN/AlN heterostructure

Table 1. Parameters for Stillinger-Weber potential

	Ga-N	Ga-Ga	Al-N	Al-Al	N-N	Ga-Al
$\epsilon(\text{eV/bond})$	2.2645	1.4	2.9173	1.4	1.24	1.4
$\sigma(\text{\AA})$	1.7001	2.11	1.7616	2.176	1.333	2.143
$a(r_c/\sigma)$	1.8	1.6	1.8	1.6	1.8	1.6
λ	28.5	28.5	11.5	11.5	28.5	18.10387
γ	1.2	1.2	1.2	1.2	1.2	1.2
A	7.71825	7.71825	5.98742	5.98742	7.71825	7.71825
B	0.69375	0.69375	0.4495	0.4495	0.69375	0.69375
p	4	4	4	4	4	4

S2. Quantitative analysis for polarization conversion

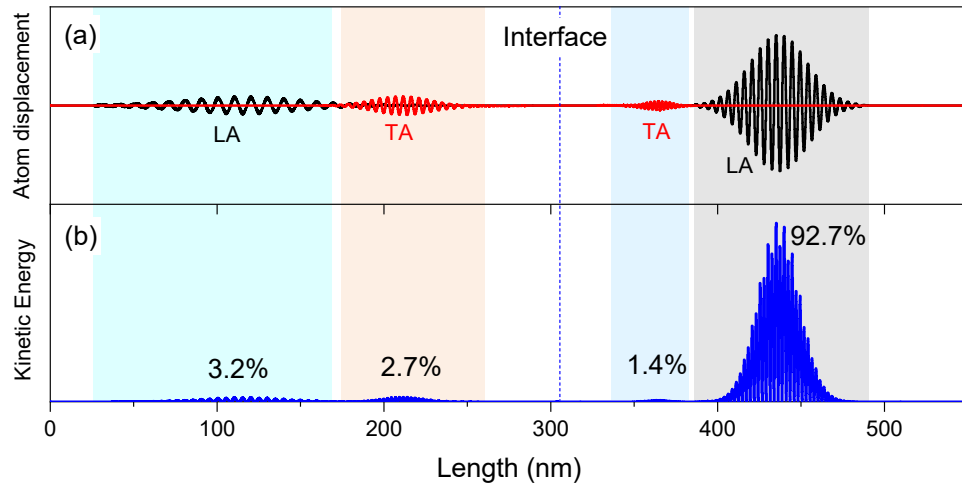


Figure S1. (a) The snapshots of wave packets after scattered at the interface and (b) the correspondingly kinetic energy distribution of various phonon modes.