Dear Editor,

We would like to submit our manuscript entitled “Anisotropic in-plane thermal conductivity in multilayer silicene” for the publication as a regular paper in computational materials science.

In this manuscript, we have carefully studied that effect of the surface reconstruction, it is found that the reconstruction can largely affect the thermal conductivity and also induces thermal conductivity anisotropy. The magnitude and anisotropy is mainly contributed from low frequency phonons in bilayers structures while that in multilayer structures comes from high frequency phonons. Phonon lifetime of low frequency is much larger and anisotropic than high frequency in bilayer structures while in multilayer structures it has less dependence on frequency. Through carful analysis, we find that both the phonon-lifetime anisotropy and the phonon-group-velocity anisotropy contribute to the thermal conductivity anisotropy of multilayer silicene. These findings could be helpful in the field of heat management, thermoelectric applications involving silicene and other multilayer nanomaterials with surface reconstructions in the future.

We believe that the present work is important and timely hence will be of great interest to the readers of computational materials science.

Thank you for your consideration.

Sincerely,

Xin-Gao Gong

Professor of Physics, Fudan University