THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Dear editors,

Please see enclosed for a submission entitled "Broken Symmetries in Quasi-2D Charged Systems via Dielectric Confinement" authored by Xuanzhao Gao and Zecheng Gan for your consideration as a publication in the Physical Review Letters.

In this manuscript, we derive an analytic, fast convergent lattice summation formula for confined quasi-2D charged systems, which is used for efficient MD simulations of charged particles under dielectric confinement. For the first time, we demonstrate that spontaneous symmetry breaking can be triggered solely via dielectric confinement, with surprising charge-separated liquids and correlated-clusters formation. The underlying physical mechanism is analyzed quantitatively.

I believe this manuscript will be in general interesting to the physical community, working on charged systems and/or numerical simulations.

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Thank you for your consideration!

Yours sincerely,
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