

## Stretchable Thermal Conductive Composite for Anisotropic Heat Dissipation by Guided Assembly of Boron Nitride Nanosheets

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Owing to the growing demand for highly integrated electronics, anisotropic heat dissipation of thermal management material is a challenging and promising technique. Moreover, to satisfy the needs for advancing flexible and stretchable electronic devices, maintaining high thermal conductivity during the deformation of electronic materials is at issue. Presented here is an effective assembly technique to realize a continuous array of boron nitride (BN) nanosheets on tetrahedral structures, creating 3D thermal paths for anisotropic dissipation integrated with deformable electronics. The tetrahedral structures, with a fancy wavy shaped cross-section, guarantee flexibility and stretchability, without the degradation of thermal conductivity during the deformation of the composite film. Various electronic device demonstrations provide exceptional heat dissipation capabilities, including thin film silicon transistor and light-emitting diode on flexible and stretchable composite, respectively.