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Parametric instability of Thermo-mechanically loaded functionally graded graphene reinforced nanocomposite plates

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Highlights

- Parametric instability of functionally graded graphene nanocomposite plates in thermal environment is investigated.
- Distributing more GPLs near the surface layers of plates can considerably increase the excitation frequency and reduce the size of unstable region.
- The influence of GPL geometry becomes much less pronounced as the GPL aspect ratio and width-to-thickness ratio increase.
- The effects of compressive force and temperature rise are to reduce the excitation frequency and increase the size of unstable region, while a tensile force has an inverse influence.

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