Influence of Van der Waals Forces on Elastic and Buckling Characteristics of Vertically Aligned Carbon Nanotubes

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Highlights

- FEM based model with and without van der Waals interaction is developed and validated for SWCNTs and DWCNTs.
- FEM modeling of VACNTs with and without van der Waals forces are presented.
- Influence of arrays size of VACNTs on elastic modulus is studied.
- Influence of arrays size, intertube spacing and tube diameter on buckling strength of VACNTs is studied.