Vibration analysis of thermoelastic nano-wires under Coulomb and dispersion forces

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Highlights

- The static and dynamic responses of nano-bridges with circular cross-section are analyzed in detail.
- It is found that both the pull-in voltage and the fundamental frequency change prominently with the variation of length-scale and surface effects.
- The impact of couple stress and temperature rise on the threshold voltage changes with the change of Poisson's ratio.