Three-dimensional deformations of a curved circular beam subjected to thermo-mechanical loading using Green's function method

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Highlight

- Thermo-mechanical static analysis of a three-dimensional circular curved beam is investigated.
- Euler-Bernoulli theory of beams is employed to model thin beams under general loading.
- The solution of equilibrium equations is obtained using Green's function method.
- The temperature variation is applied in both radial and lateral directions.
- The change of temperature in lateral direction results in out-of-plane and in-plane deformations.