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Micromechanical estimation of biaxial thermomechanical responses of hybrid fiber-reinforced metal matrix nanocomposites containing carbon nanotubes

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**Highlights**

- A mixed model is proposed to investigate the mechanical characteristics of CNT-fiber reinforced metal matrix composites.
- The effect of the coefficients of thermal expansion mismatch between the constituents of the hybrid composites is considered.
- The stiffness and initial yield envelope of fiber reinforced metal matrix composites can be significantly improved with adding CNTs.
- Adding CNTs into the fiber reinforced metal matrix composites can reduce the effect of thermal residual stresses.

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