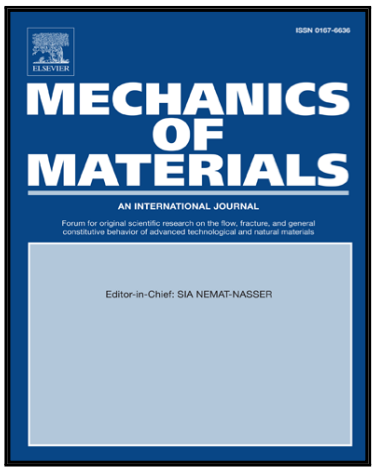

Indentation of a flat-ended cylinder over a transversely isotropic and layered half-space with imperfect interfaces

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Highlights

- The mixed boundary-value problem is solved by a novel and simple method.
- Indentation moduli are accurately predicted based on the method of superposition of forward solutions combining with integral least square approach.
- Various imperfect interface conditions are introduced and compared with each other.
- The combined effect of material anisotropy, thin-interlayer, and different interface conditions on the indentation moduli is investigated in detail.
- The mathematically elegant cylindrical system of vector functions is applied.
- The dual variable and position method is employed for computational efficiency.