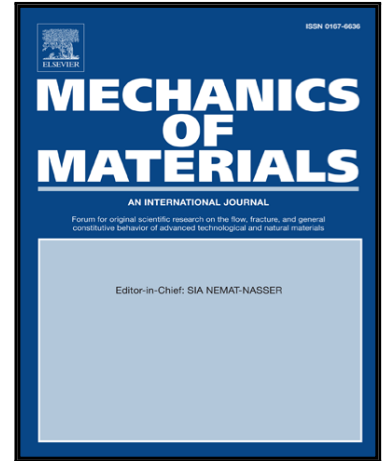


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Practical Assessment of Nanoscale Indentation Techniques for the Biomechanical Properties of Biological Materials

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## Highlights

- A sharper indent tip measures higher elastic modulus, which hints the mechanical behavior of the specimens at nanoscale.
- The proper selections of indentation depth onto the biological materials depend on the sample surface roughness and thickness.
- The adhesive or viscoelastic properties of biological materials affect the elastic measurements, while the modified contact mechanism models overcome the inaccuracy.
- The suitable applications of nanoindentation techniques on various biological materials are summarized and future research directions of bio-nanoindentation are suggested.

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