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An objective meta-modeling approach for indentation-based material characterization

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**Highlights**

- Indentation imprint mapping was applied to the problem of characterization of plastic behavior of materials.
- Image-comparison approach based on supervised nonlinear manifold learning.
- The protocol was designed to avoid the usual problems associated with the use of the loading/unloading curve.
- The protocol was applied on three different materials and the results obtained were compared with direct tensile testing.

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