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Effect of nodal mass on macroscopic mechanical properties of nanoporous metals

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Highlights

- A nodal corrected beam modelling concept is introduced that allows local incorporation of the effective elastoplastic mechanical behavior of the nodal mass in nanoporous metals;
- The effect of the nodal mass on the macroscopic mechanical behavior of nanoporous metals is investigated;
- The leading constants determined in the scaling laws for Young's modulus and yield strength are modified;
- It is shown that the nodal correction model improves the overall agreement with literature data for the ligament size dependent strength.

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