Comparison of constitutive models using different yield functions for porous shape memory alloy with experimental date

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Summary

Several constitutive models with different yield functions for porous shape memory alloy (SMA) are compared with the experimental date. Different approaches such as upper bound theory and lower bound theory have been adopted and a new correction formula of the yield function is proposed in this work to study the behavior of porous SMAs. Numerical results are compared with the experimental date by Zhao et al (2005). It shows that the researches using upper bound and lower bound are nearly the same and the new correction formula is much closer to the experimental data than others.