

Ut vis sic tensio

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Abstract

The mechanical properties of rubber-like materials and soft tissues have been offering an outstanding challenge to the solid mechanics community for a long time. The behavior of such materials is quite difficult to predict because rubber self-organizes into mesoscopic physical structures that play a prominent role in determining their complex, history-dependent and strongly nonlinear response. In this framework one of the main problems is to find a functional form of the elastic strain-energy that best describes the experimental data in a mathematical feasible way. The aim of the present lecture is to give a survey of recent advances aimed at solving such a problem starting from some data of brain matter.

References

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