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On the modeling of a visco-hyperelastic polymer gel under blunt ballistic impacts

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**Highlights**

- Tensile and compressive experiments performed at quasi-static up to dynamic strain rates are exploited.
- A visco-hyperelastic material model is proposed based on the Mooney-Rivlin material model.
- A direct and indirect identification procedure of model parameters is introduced.
- Non-penetrating ballistic experiments are performed on a SEBS gel block.
- The proposed material model is validated against quantitative and qualitative comparisons with ballistic tests.

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