Simulation of the flow behavior of AZ91 magnesium alloys at high deformation temperatures using a piecewise function of constitutive equations

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Highlights

- Piecewise function models for establishing constitutive equations of AZ91 alloy are proposed.
- New functions for describing material constants in constitutive equations are proposed.
- Piecewise function models show higher precision and good capability for describing constitutive equations.
- Description of nonlinear function is better for predicting variation of flow stress after the peak value.