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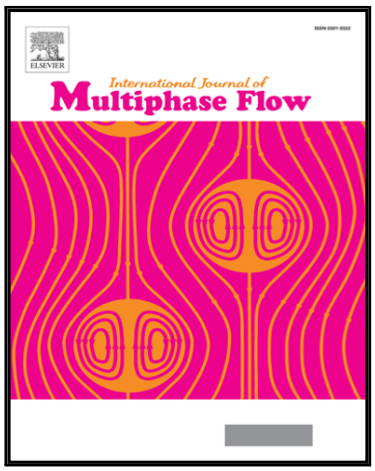

A Multi-Phase Theory for the Detonation of Granular Explosives Containing an Arbitrary Number of Solid Components

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Highlights

- A two-phase continuum model widely was formally extended to include multiple solid components.
- A Second Law analysis gives rise to additional reaction energy dissipation parameters.
- Energetic contributions to phase heating are evolved to determine dominant mechanisms.
- Metal oxidation energy may be coupled to the explosive reaction zone for enhanced detonation.
- A transition from metal endothermic heat absorption to oxidative heating is observed.

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