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Dynamic tensile behaviours of heterogeneous rocks: the grain scale fracturing characteristics on strength and fragmentation

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Highlights

- Grain scale discrete element model is proposed to study dynamic properties of rocks.
- Heterogeneous rocks are reproduced and micro fracturing characteristics are investigated.
- Rocks behave fragmentation transition from sparse fracture to pervasive pulverization as the strain rate increased.
- Strain rate mechanism is related to micro fracturing transition from intergranular to transgranular.

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