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Impact damage on a thin glass plate with a thin polycarbonate backing

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- computational and experimental study of brittle damage induced by a small spherical projectile impact on a thin glass plate with thin PC backing plate.
- dependence of damage patterns on the projectile impact speeds of 60 to 200 m/s is analyzed.
- the peridynamic model predicts the brittle damage patterns and features of crack lines observed in the experiments at the various impact speeds.
- The peridynamic model shows how boundary conditions influence damage patterns due to stress waves reflections.
- the experimentally-observed trend of increased rebound velocity with increased impact speed is predicted by the peridynamic model.

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