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Collision Measurements Using Digital Image Correlation Techniques

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Highlights

- A combination of DIC and PIV methods have been used to measure the motion during the collision.
- Size, shape, and density of speckle patterns have been analyzed and optimized.
- Three different experimental cases have been studied, a normal impact of a rigid rod with a deformable surface, an impact of a tennis ball with a racket, and an impact of a lacrosse ball with a rigid flat.
- Linear and angular velocity during the impact have been measured for all three of the cases.
- The results show new interesting phenomena, and the inapplicability of the conventional simulations of friction force during impact.

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