

## Tracking and Motion Analysis of Impact Fragments

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Automation for the motion analysis of fragments has been requested in a field of collision and destruction experiments. While extracting and tracking of targeted fragments have been analyzed manually in a sequence of images and movie, we substituted arrangements of 2DCDP (two dimensional continuous dynamic programming) for that manual works. Four large fragments in test data were succeeded in handling and measuring velocities and sizes of them. We also introduced a new method to prepare better reference images for every frames by a combination of 2DCDP and helmert transformation. These labor-saving procedures are effective in analysis of objects in movies.