

Introduction

Four sets of images were shared to be analysed by ShanMukha's DigImCorr (2D-DIC) software. The observed results after analysing the four data sets are presented below. In all the results, displacement vectors are presented in pixel units as the calibration details of the experimental setup were not available.

Results for SET 1

Table1: used images for processing

Reference Image	dynamic1-0001_1
Deformed after impact	dynamic1-0014_1

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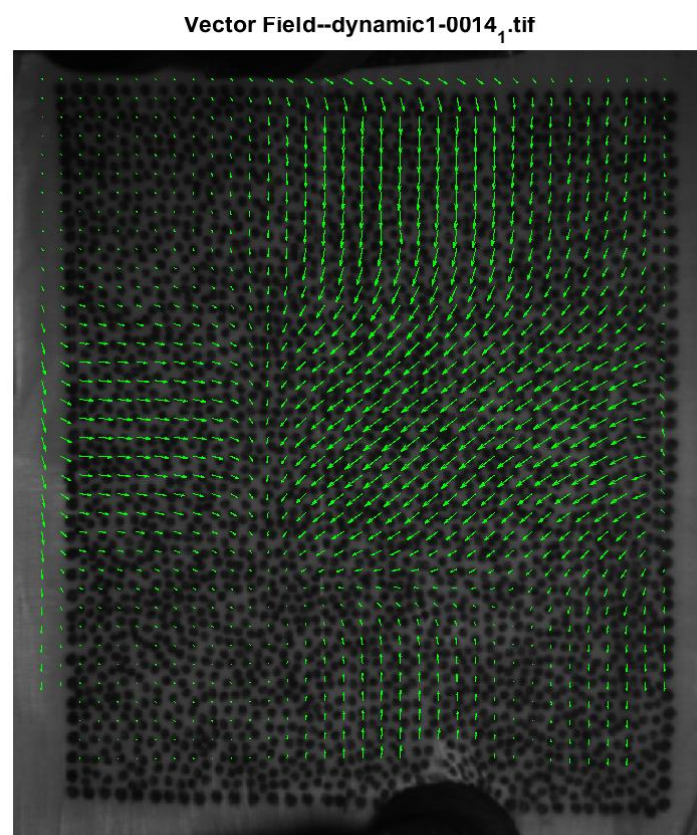


Fig1. Vector displacement plot. Movement of the surface is indicated by the arrows

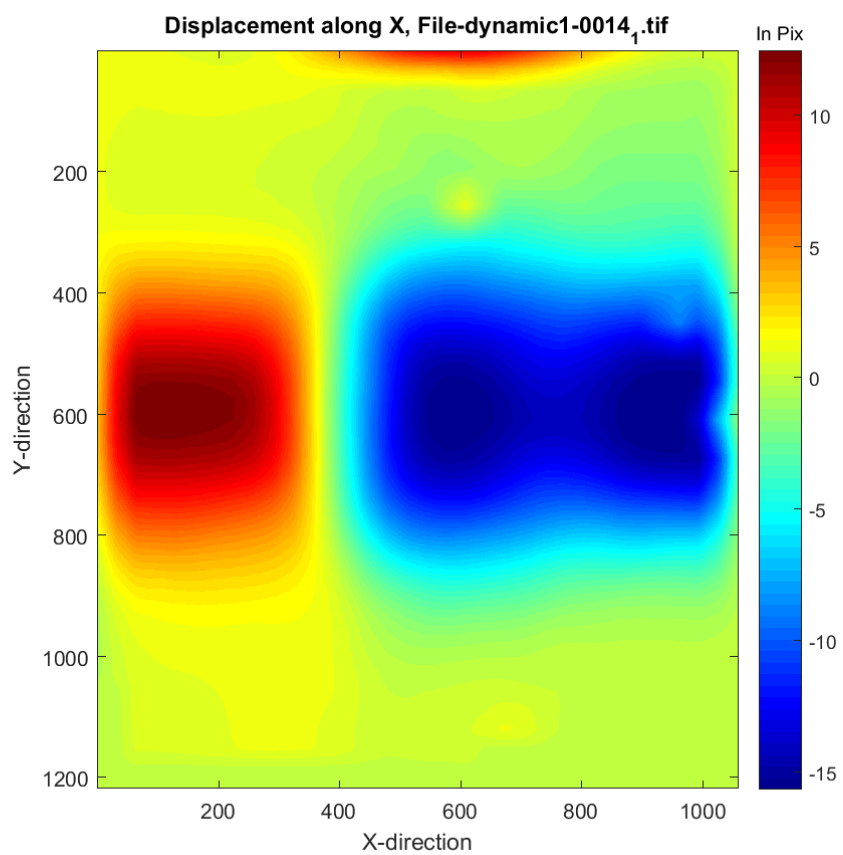
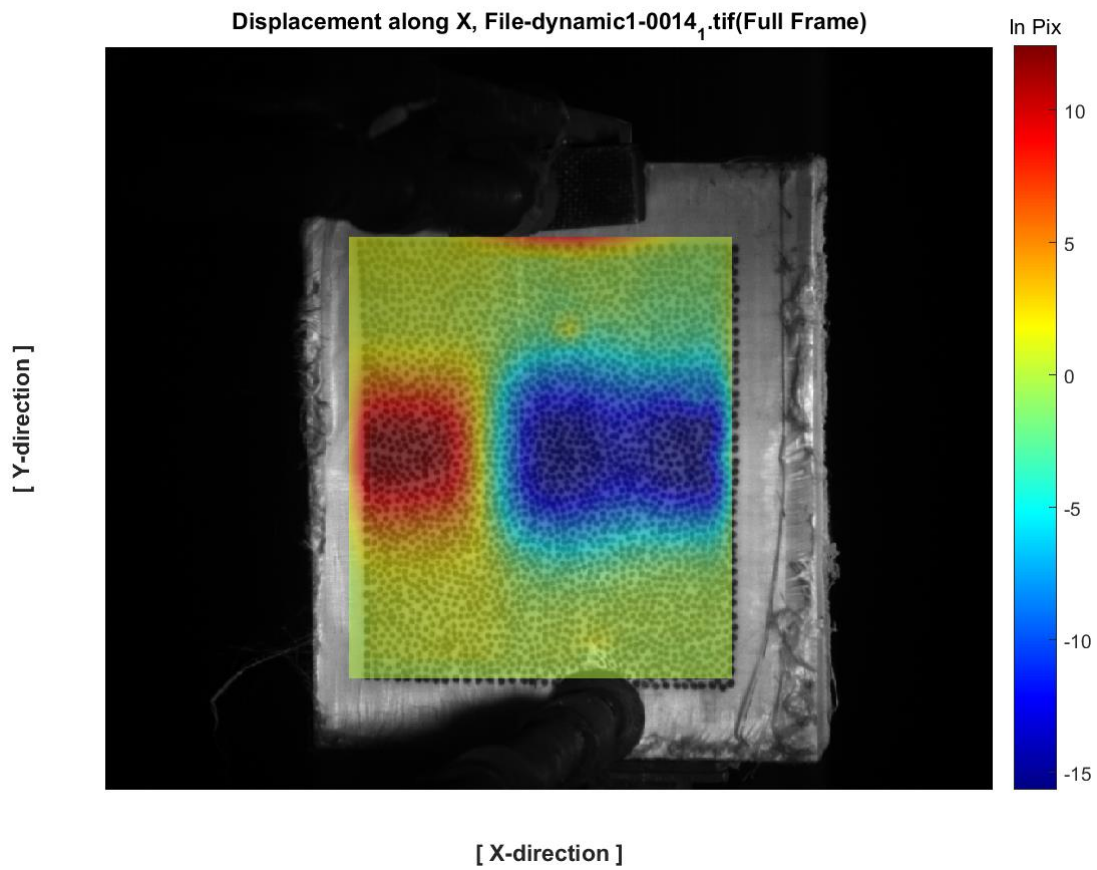
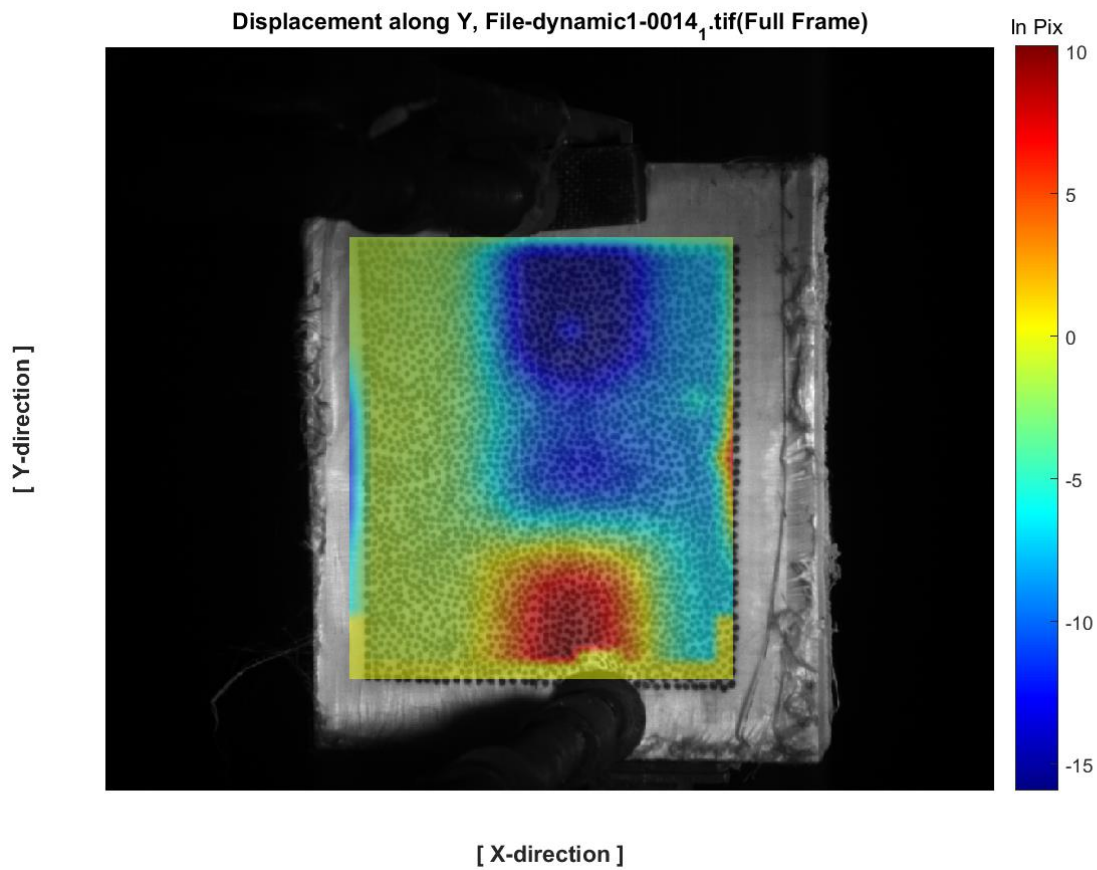


Fig.2.: Displacement of the surface along X-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing



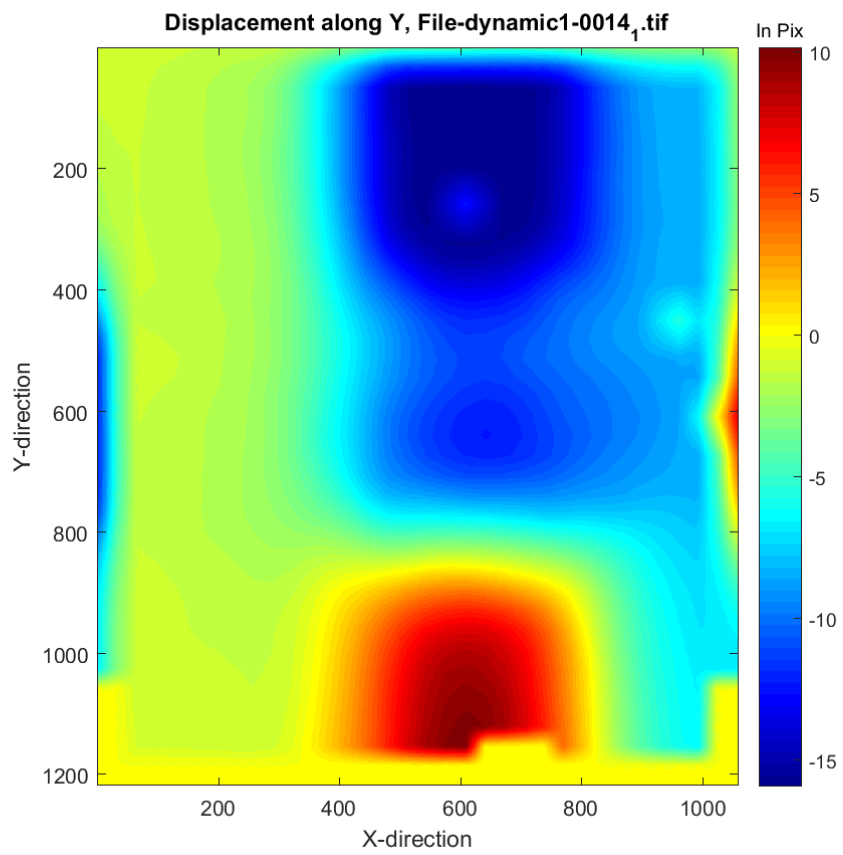


Fig.3. Displacement of the surface along Y-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing

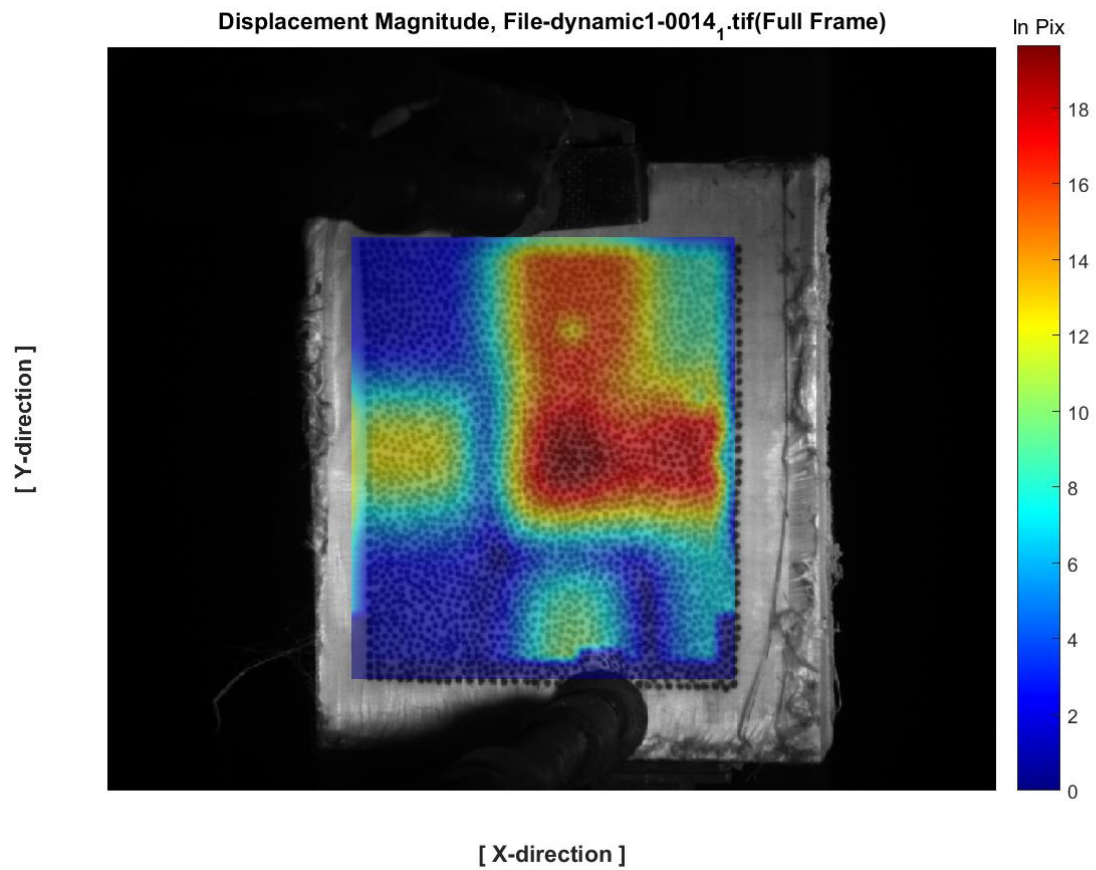


Fig.4. Magnitude of displacement vector, estimated from the displacements along X-axis and Y-axis

Results for SET 2

Table2: used images for processing

Reference Image	dynamic1-0000_1
Deformed after impact	dynamic1-0013_1

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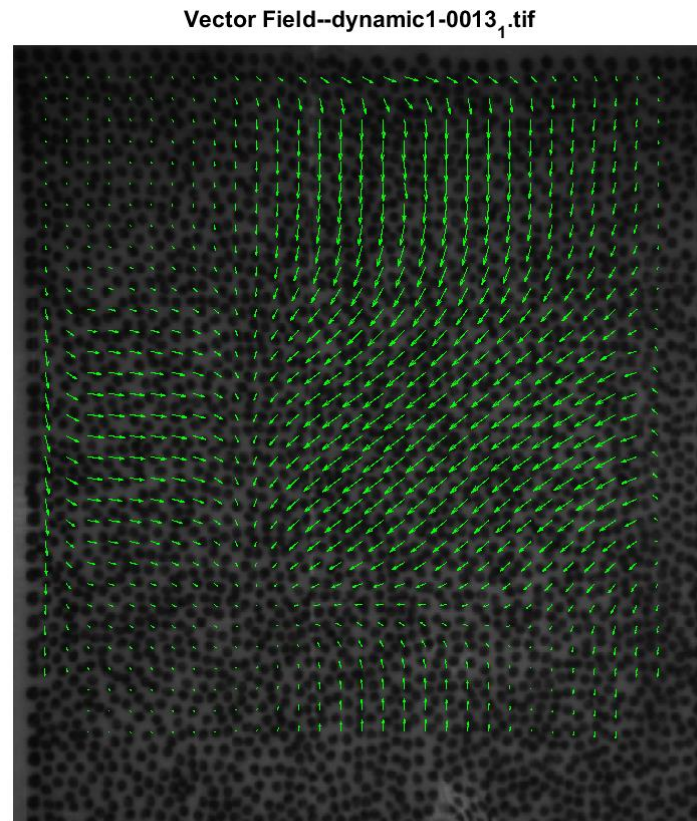


Fig.5. Vector displacement plot. Movement of the surface is indicated by the arrows

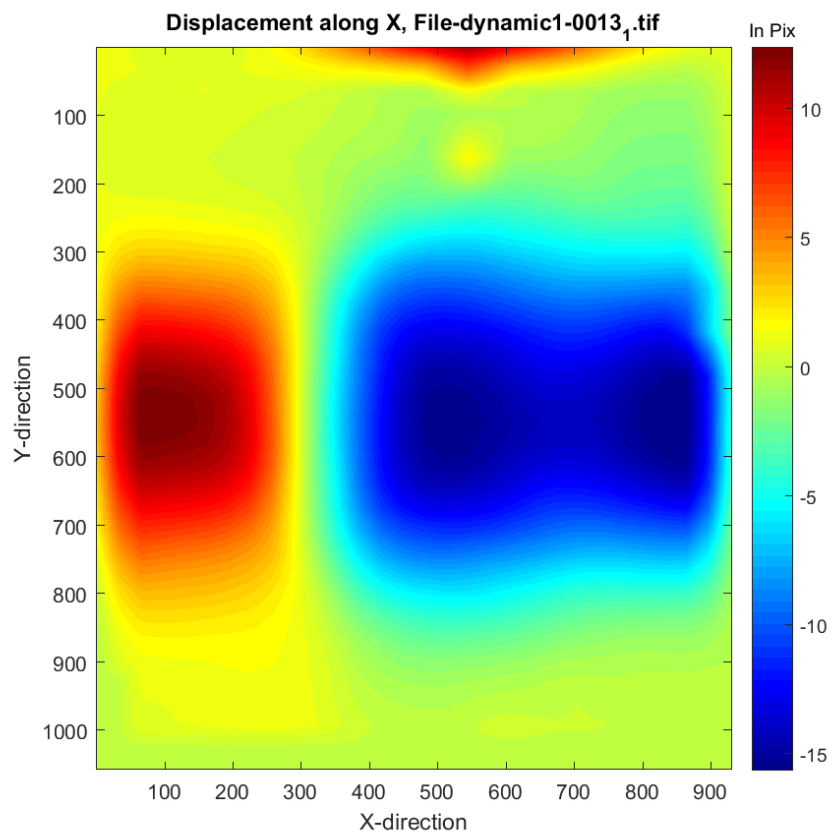
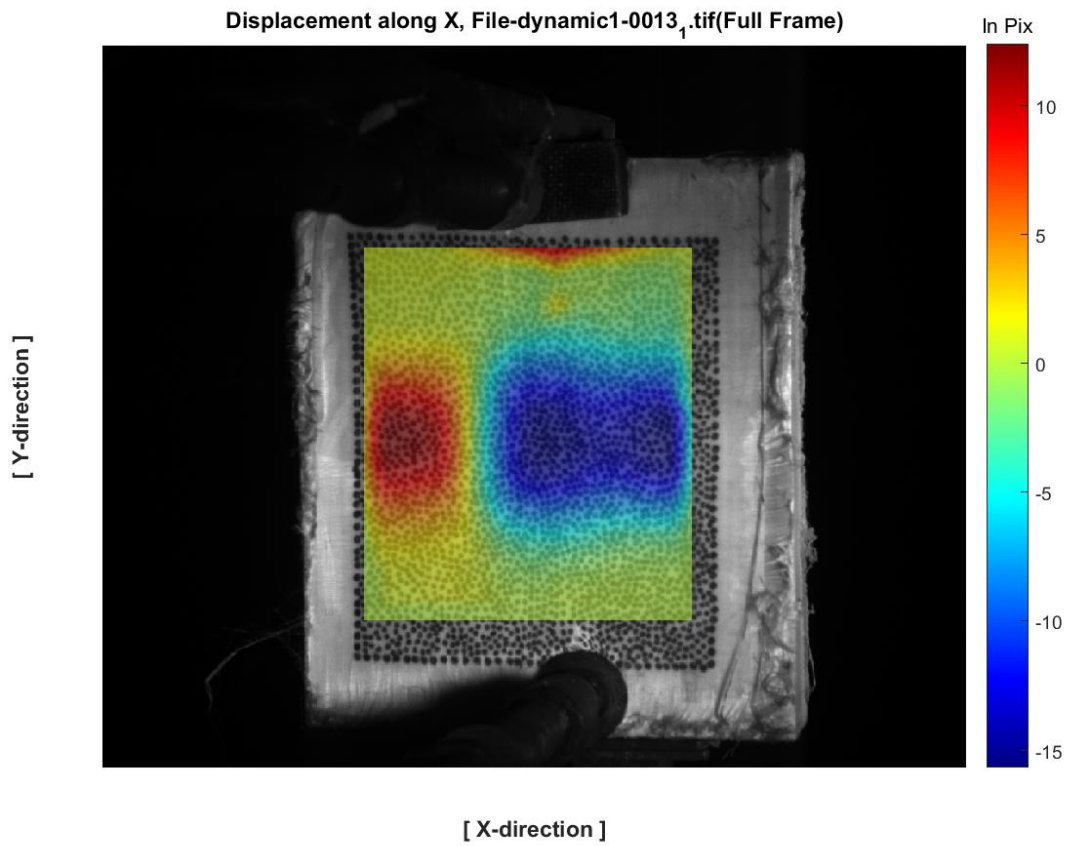


Fig.6.: Displacement of the surface along X-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing

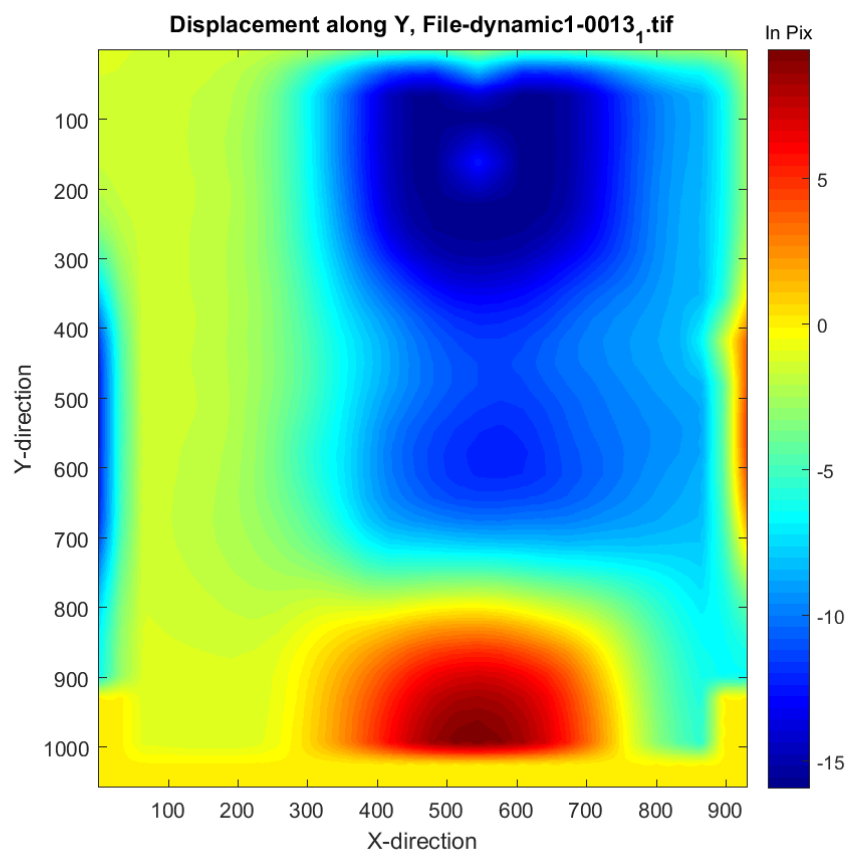
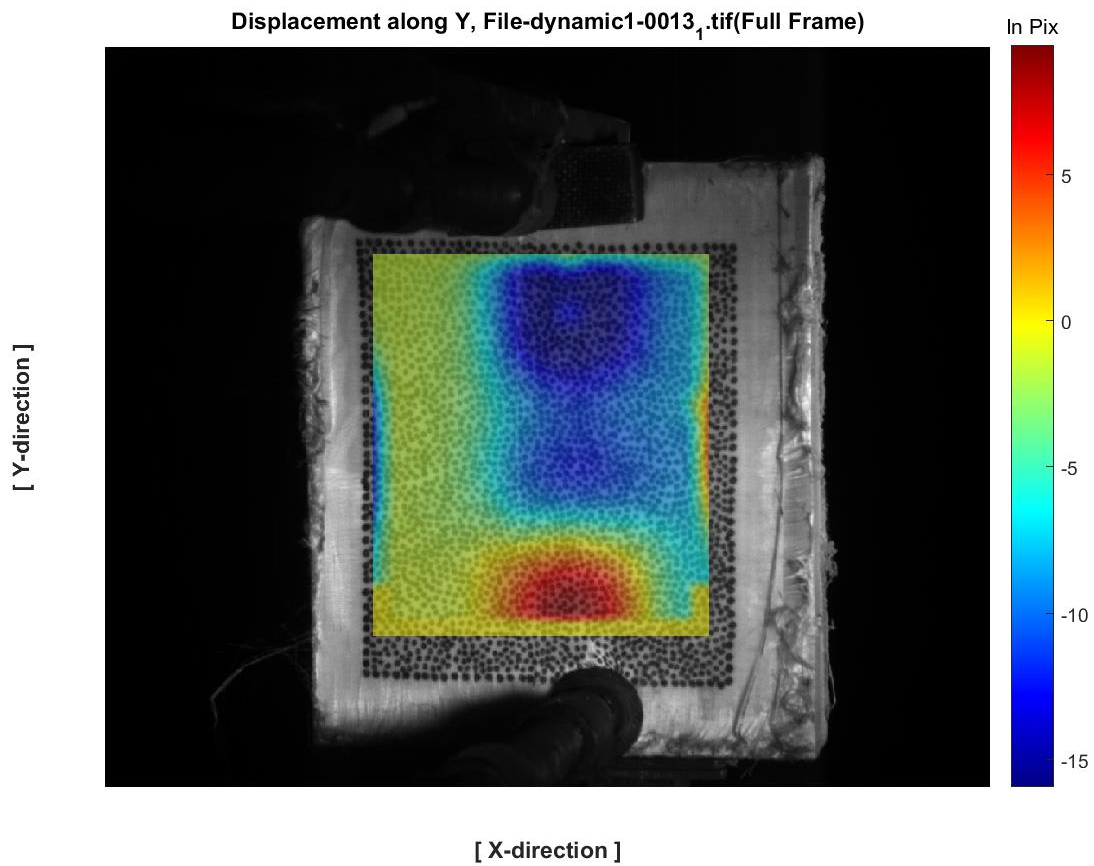


Fig.7. Displacement of the surface along Y-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing

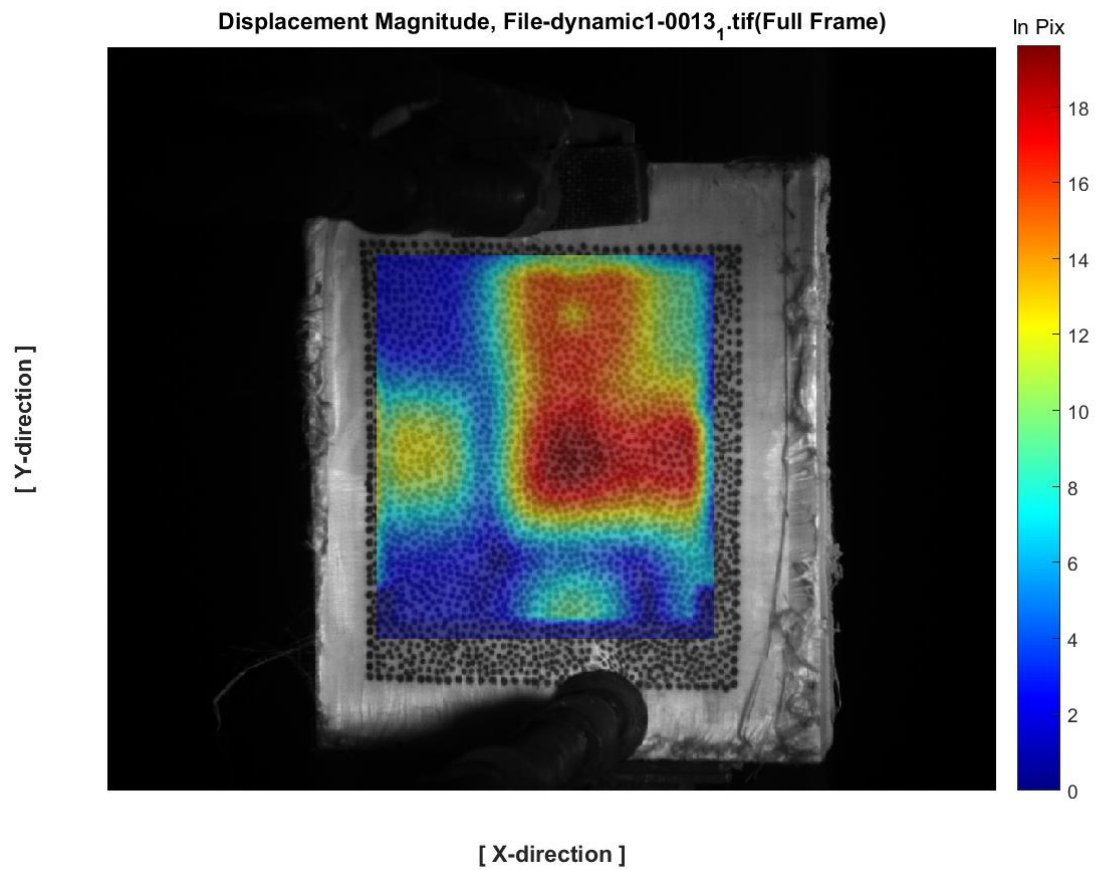


Fig.8. Magnitude of displacement vector. The magnitude is calculated from estimated displacements along X-axis and Y-axis

Results for SET 3

Table3: used images for processing

Reference Image	dynamic1-0000_0
Deformed after impact	dynamic1-0013_0

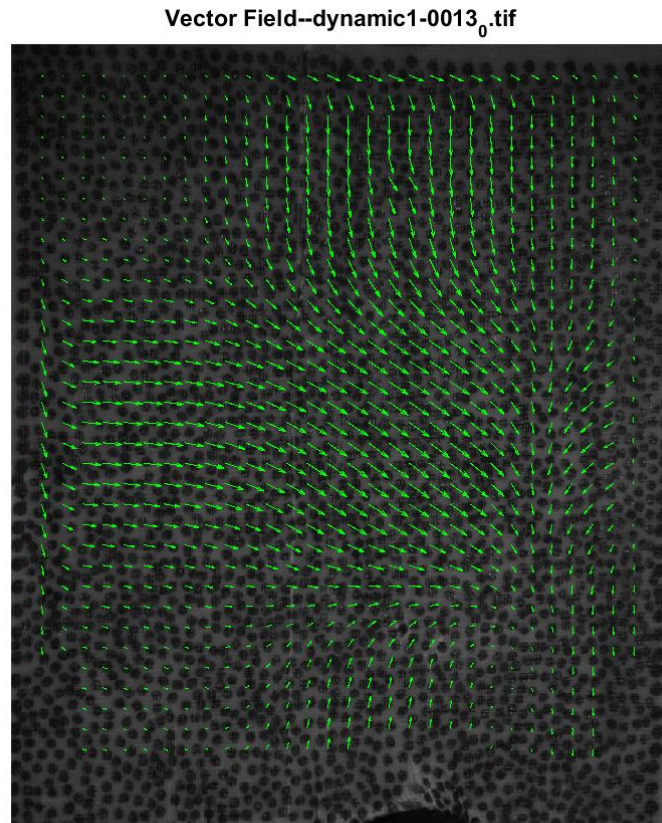


Fig.9. Displacement field vector plot. Movement of the surface is indicated by the arrows

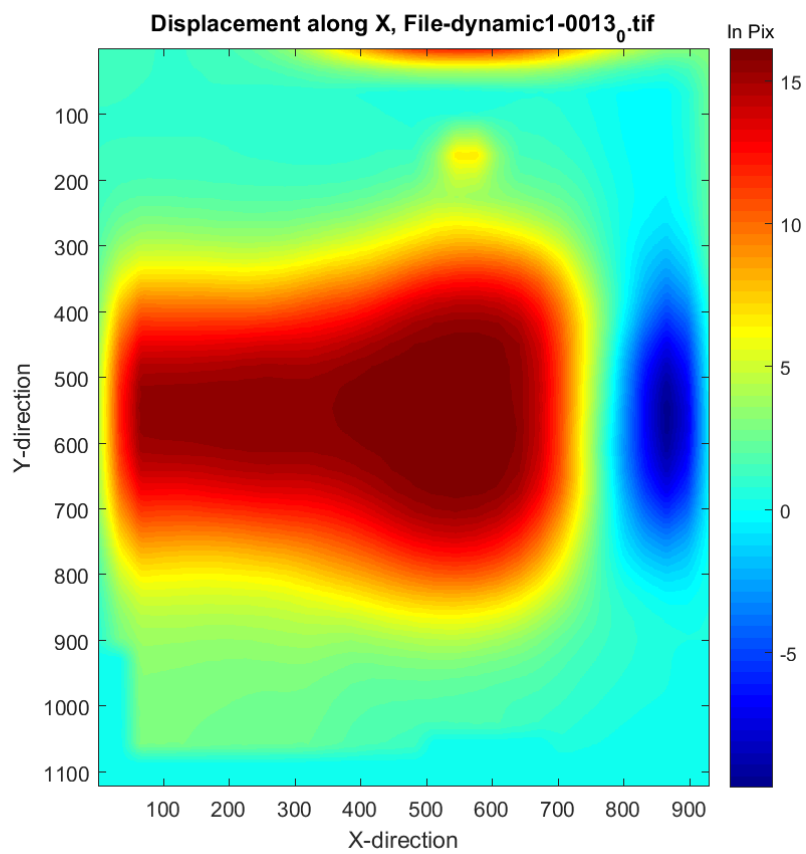
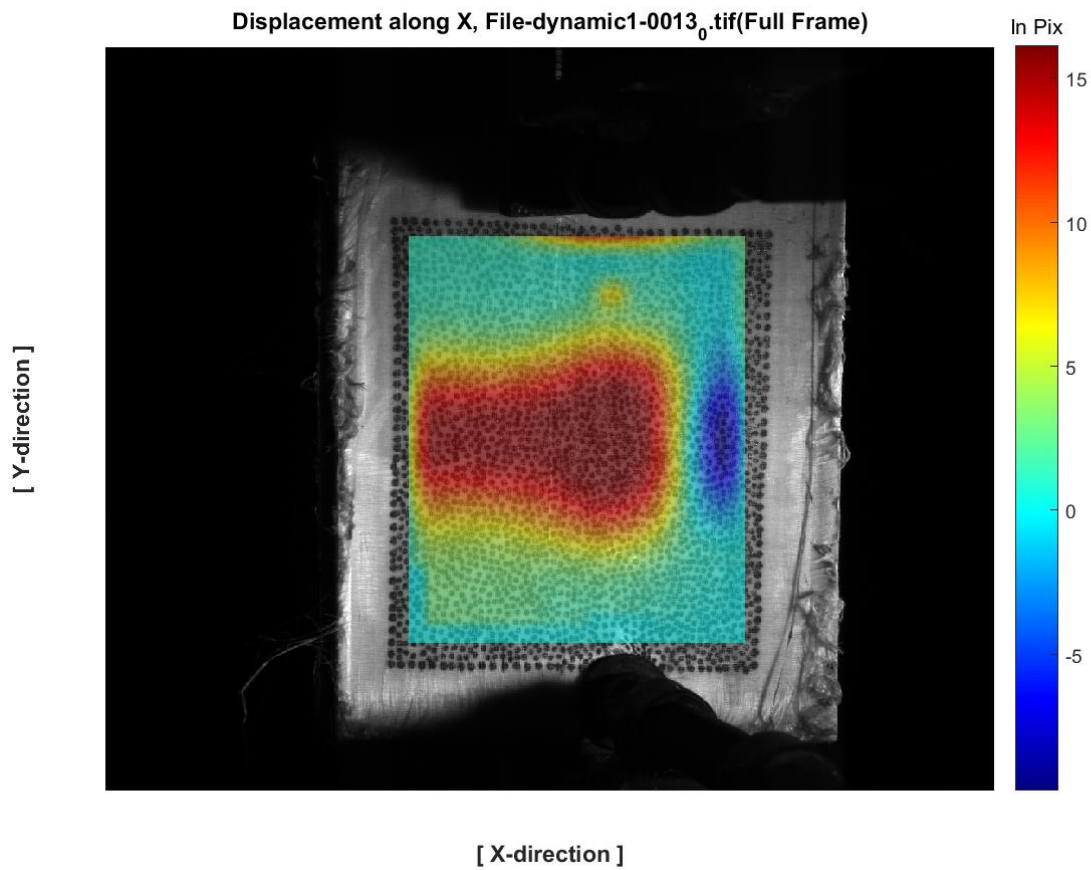
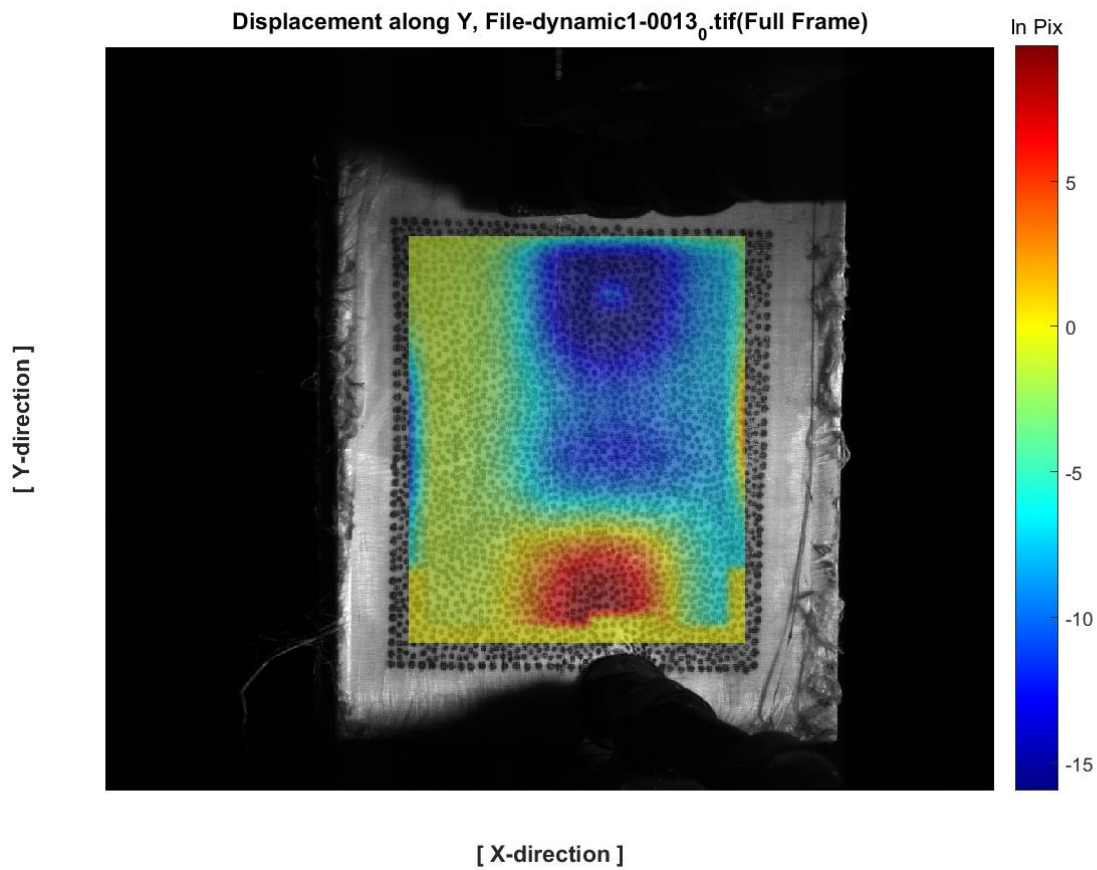


Fig.10. Displacement of the surface along X-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing



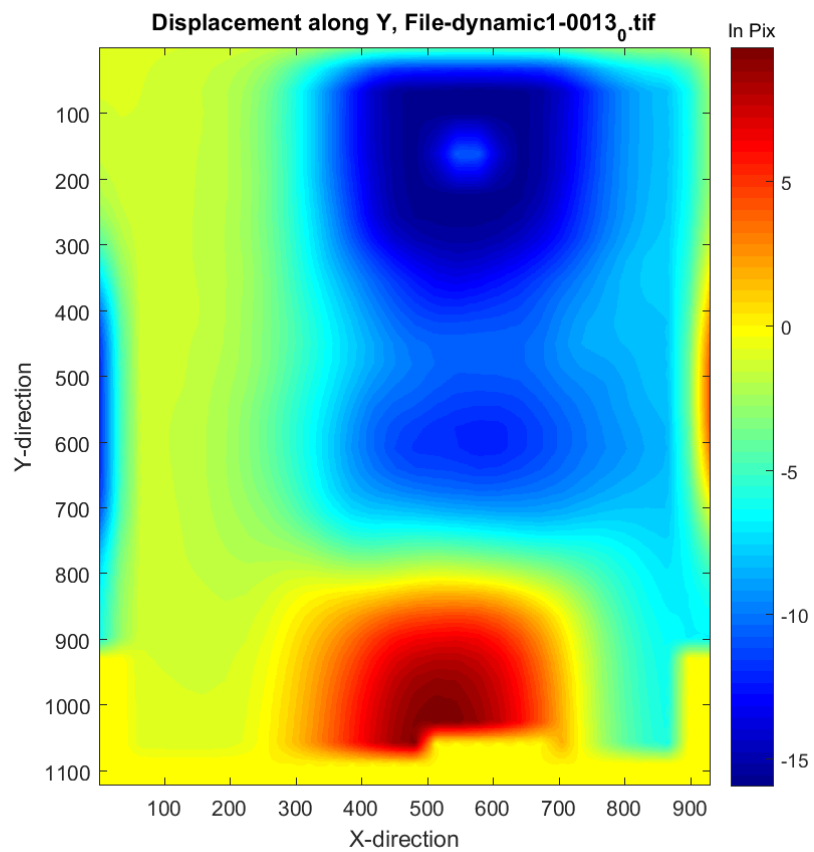


Fig.11. Displacement of the surface along Y-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing

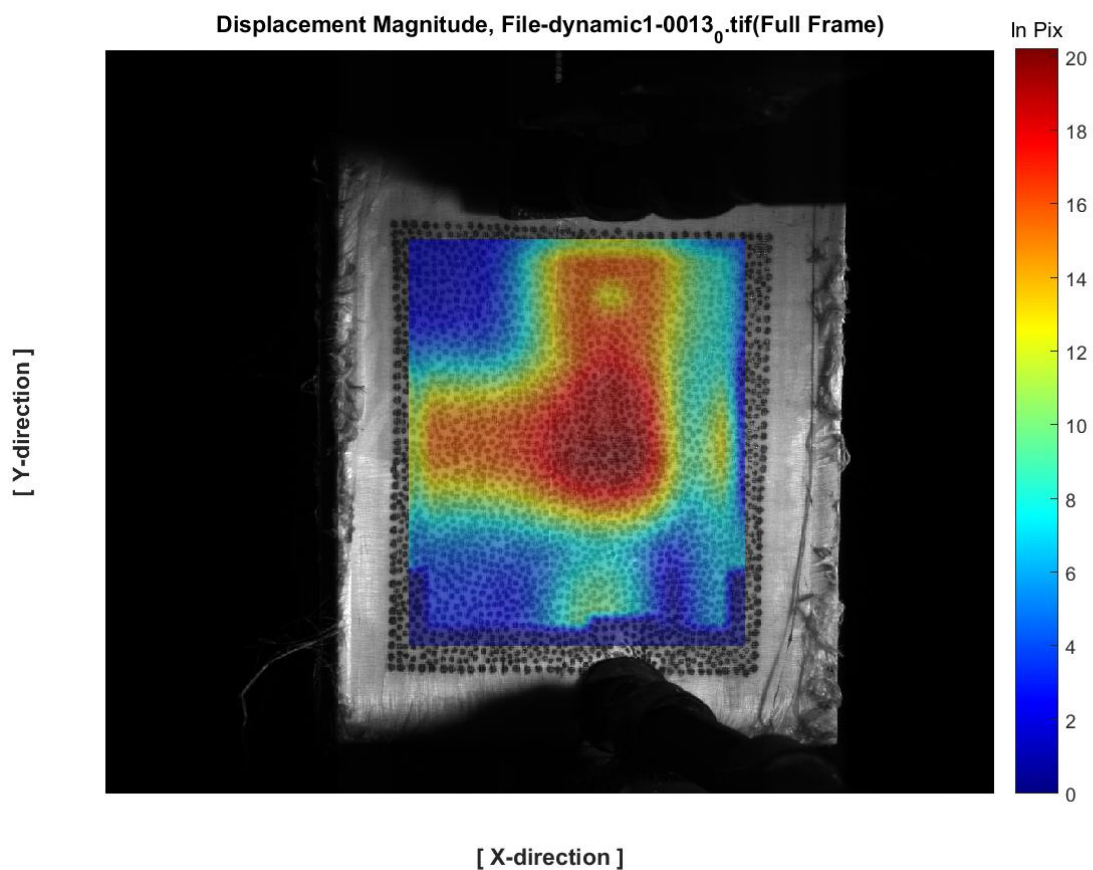


Fig.12. Magnitude of displacement vector. The magnitude is calculated from estimated displacements along X-axis and Y-axis

Results for SET 4

Table4: Information of used images for processing

Reference Image	dynamic1-0001_0
Deformed after impact	dynamic1-0014_0

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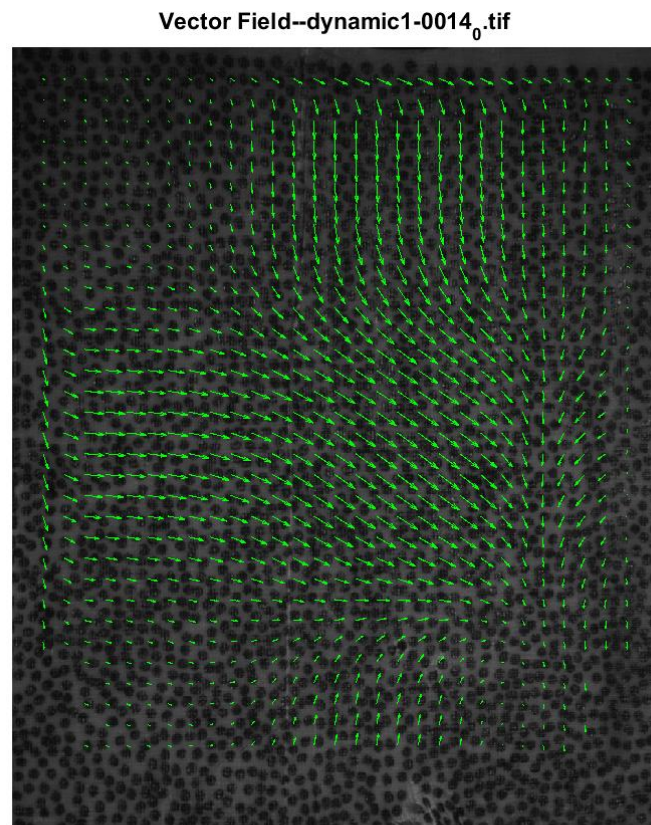


Fig.13. Displacement field vector plot. Movement of the surface is indicated by the arrows

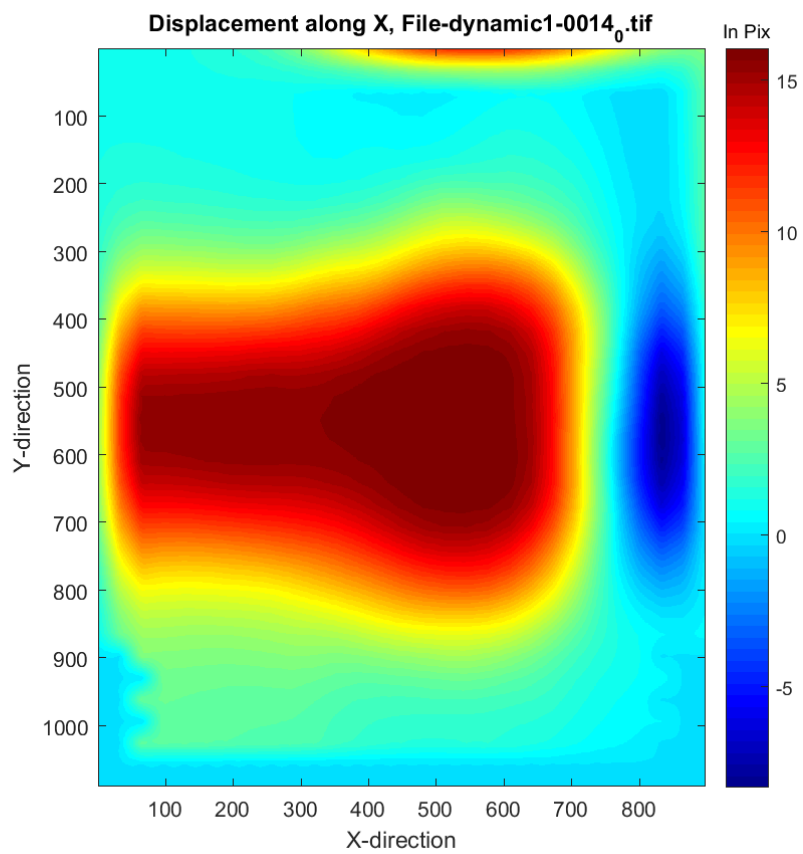
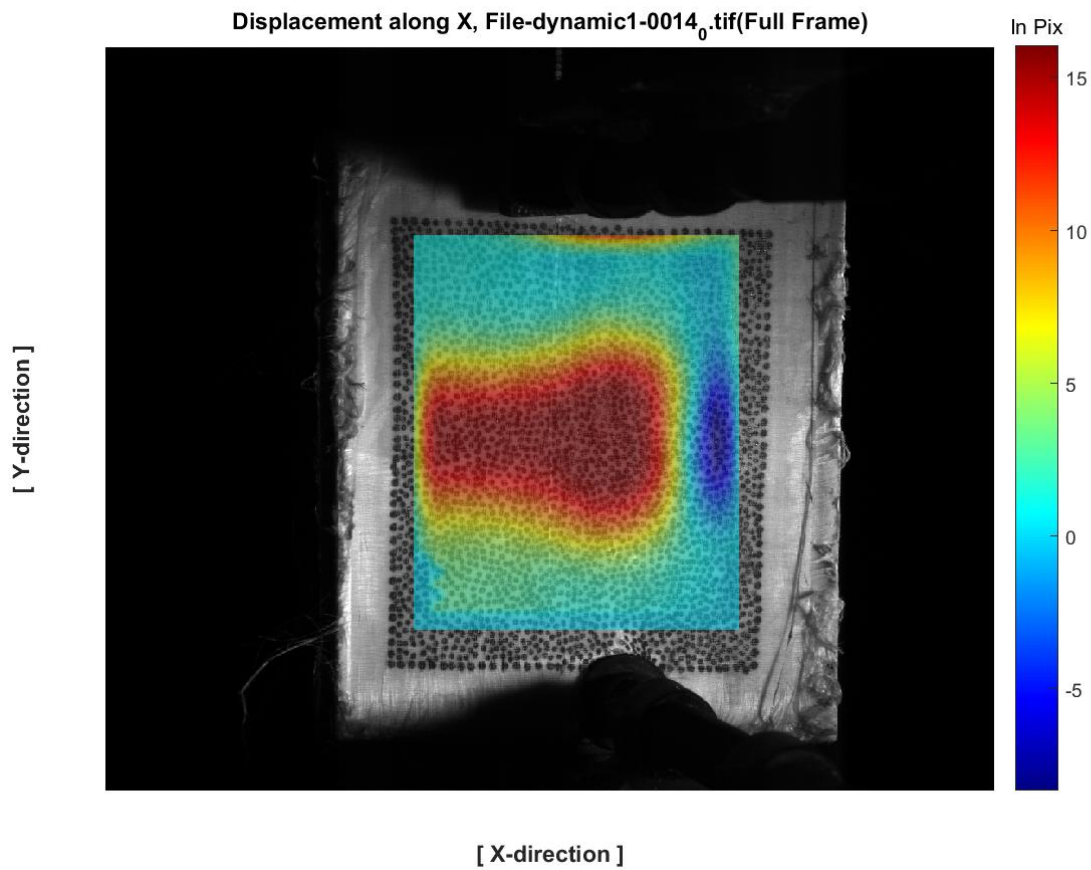
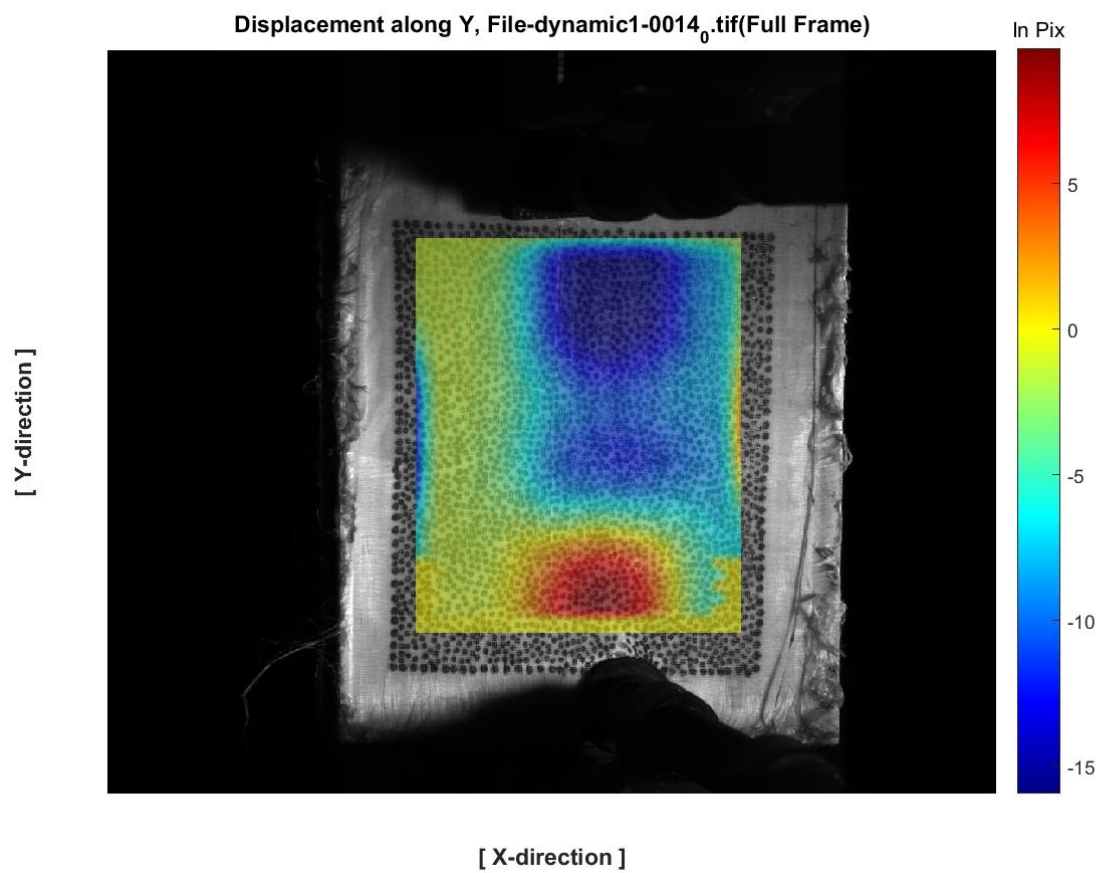


Fig.14.: Displacement of the surface along X-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing



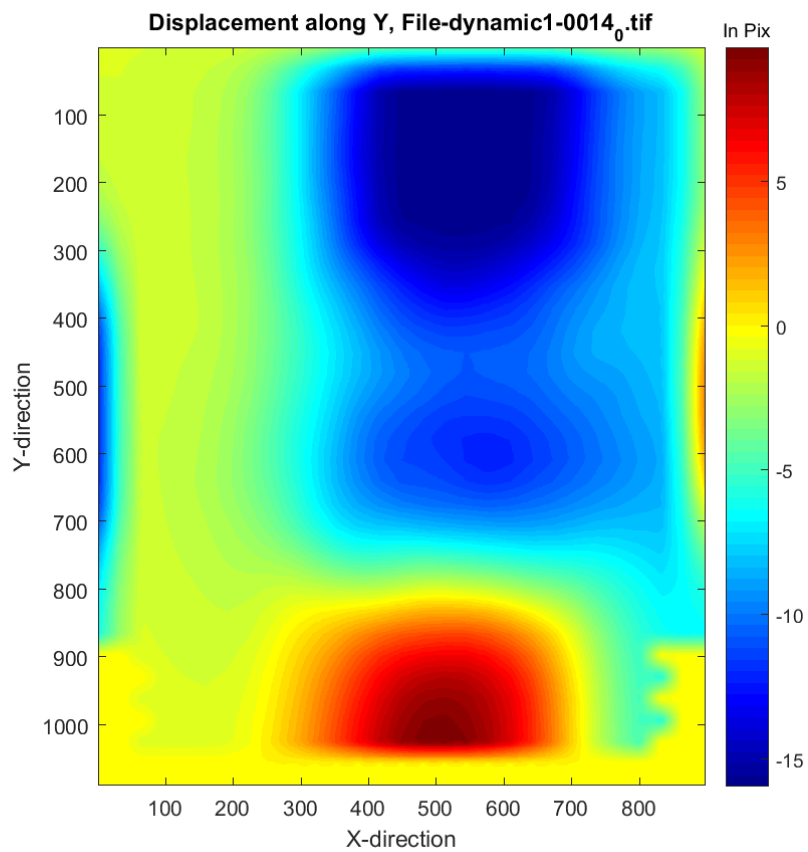


Fig.15. Displacement of the surface along Y-axis. (a) Full image, (b) cropped zone which is chosen from the main image for processing

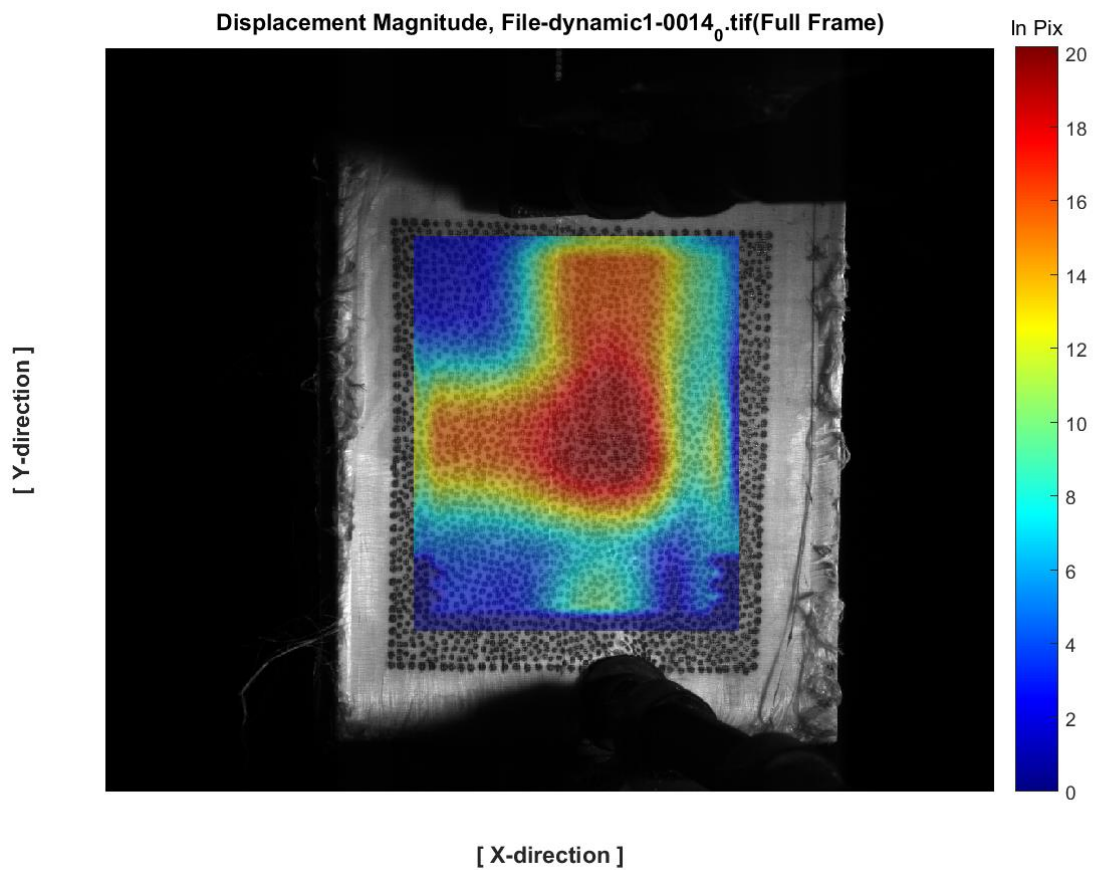


Fig.16. Magnitude of displacement vector. The magnitude is calculated from estimated displacements along X-axis and Y-axis

Conclusions

The received images are processed by DigImCorr (2D-DIC) software and the processed results are presented in the report. The displacement fields along X-axis, Y-axis and its magnitude are presented in coloured heat map images and vector plots.