

Digital Image Correlation: Full-field quantitative data from micrometers to meters and hertz to megahertz – the DIC journey from university curiosity towards an industrially accepted technique

Digital Image Correlation (DIC) is a full-field optical shape, displacement, and strain measurement method that has developed wide use in mechanical engineering for material testing and FE model validation. The explosive growth of both imaging and computing technology since the start of DIC in the 1990's has greatly increased its range of applicability and power. This talk will highlight the growth of DIC through a range of examples including quasi-static and high rate testing at both the large scale and the micro-scale testing (see Figure 1) and will detail how DIC has been successfully used at Sandia for making critical engineering measurements. I will look at the evolution of DIC and directions of the global DIC community through the goals of the International Digital Image Correlation society (www.iDICs.org): Including standardization, training & certification, and improved DIC practices.

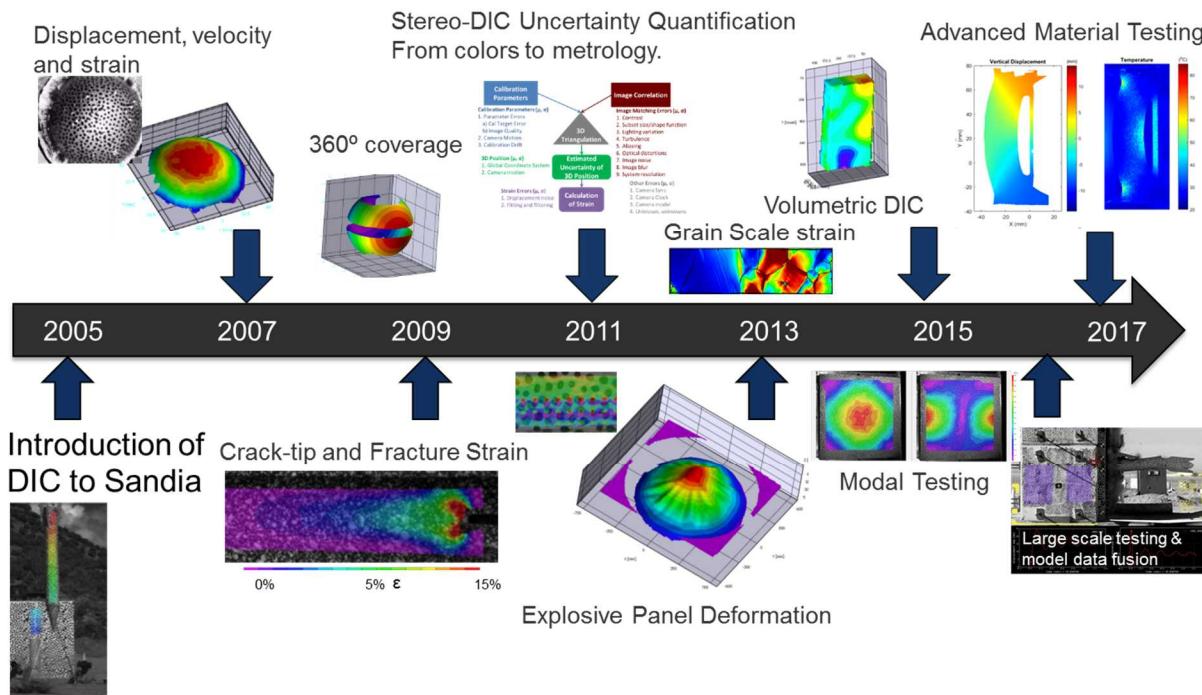


Figure 1. Evolution of digital image correlation (DIC) at Sandia.

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