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Further development of printable moire interferometer for evaluating stress concentrations at bolt holes

Chris Obermark & Glenn Washer

The goal of this project is to develop and demonstrate an interferometry system that can be used to visualize the stress concentrations at bolt holes and cracks. Part of the project, is a study of the existing literature on interferometric measurements and developing a full understanding of the science and practical use of this strain measurement technique. A method for producing the necessary screens to produce interference patterns at sufficient resolution to visualize stress concentrations at a hole and a crack will be developed. The design of a loading device that can be easily transported will provide the loading necessary to run the experiments and demonstrate the method has been previously developed and initial demonstrations conducted. This project will further advance the techniques such that more quantitative results can be obtained.