

ME557 Lab experiment #2

General Description:

In plane or out of plane displacement measurements using geometric moiré will be demonstrated in this lab.

Objectives:

Design a geometric Moiré to measure an unknown deformation either in-plane or out-of-plane of a steel plate.

Results:

Submit the following items in your report,

1. Objective of the measurement (either in-plane or out-of-plane displacement) and also describe the approach for the measurement
2. Optical setup (describe your components and procedure)
3. Measurement taken from the experiment
4. Compare your experimental results with the calculation.

Equipments needed:

CCD camera

Reference grating

Specimen grating

Light source (fiber light or order one)

Collimator (combination lenses to collimate the light)