

Combining dynamic modes and topological sensitivities for active thermographic inspection**Authors:**

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Abstract: In this work we propose a new data processing tool for active thermographic inspection of metallic plates based on the combination of the higher order dynamic mode decomposition (HODMD) and the topological sensitivity. HODMD will first be used to clean up experimental noise and identify the thermographic modes. Then, the topological sensitivity of a cost functional defined in terms of those modes will be used to diagnose defects inside the plate. The performance of the method will be evaluated for a database of experimental thermographic images.