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# Data Management System for Structural Health Monitoring

6 Author(s) Adam Dreyton Ferreira dos Santos ; Moises Felipe Mello da Silva ; Claudio... [View All Authors](#)

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#### Abstract:

Optical sensors have found application in many fields, such as in Civil Engineering, Aeronautics, Energy and Oil & Gas Industries. Monitoring solutions based on this technology have proven particularly cost effective and can be applied to large scale structures where hundreds of sensors must be deployed for long term measurements of different mechanical and physical parameters. Sensors based on Fiber Bragg Gratings (FBGs) are the most common solution used in Structural Health Monitoring (SHM) and the measurements are performed by instruments known as optical interrogators. Acquisition rates increasingly higher have been possible using the latest optical interrogators, which gives rise to a large volume of data whose processing and storage can demand special softwares. This work presents the Interrogator Abstraction (InterAB) software for these purposes. The results obtained during tests in laboratory and real environment demonstrate the efficiency and flexibility of this software for different types of sensors and optical interrogators.

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