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*Residual-based approaches for structural health monitoring*

The use of statistical methods for anomaly detection has become of interest to researchers in many subject areas. Structural health monitoring in particular has benefited from the versatility of statistical damage-detection techniques. I will present residual-based approaches for damage-detection, in particular some novel methods relying on non-linear autoregressive ideas to improve model fit and detection rate. I will also discuss ideas for combining sensory output to increase detection power.