

# Performance Degradation and Reliability

**Adrian Stere PARIS, Constantin TÂRCOLEA**

Department TMS, Faculty IMST, Univ. Politehnica Bucurest, Romania; Department M-I, Faculty  
FSA, Univ. Politehnica Bucurest, Romania  
adrianparis@camis.pub.ro, constantin\_tarcolea@yahoo.com

## Abstract

Performance degradation over time contains the information for system or component reliability modelling. If system performance failure is defined in terms of performance degradation at a certain defined level, the system reliability assessment can be evaluated. The performance of an individual product unit is generally a function of use and/or aging across time, clues of which can be determined from measures of physical variables. The paper presents an approach to estimating conditional performance reliability for individual industrial equipments placed in service in real-time, applying the methods of multivariate statistics (regression, PCA, ARIMA).

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