

## **Determining a Suitable Maintenance Measure for Gentelligent Components Using Case-Based Reasoning**

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**Abstract :** Components with sensory properties such as gentelligent components developed at the Collaborative Research Center 653 offer a new angle on the full utilization of the remaining service life in case of a preventive maintenance. The developed methodology of component status driven maintenance analyses the stress data obtained during the component's useful life and on the basis of this knowledge assesses the type of maintenance called for in this case. The procedure is derived from the case-based reasoning method and will be elucidated in detail. The method's functionality is demonstrated with real-life data obtained during test runs of a racing car prototype.

**Keywords :** gentelligent component, preventive maintenance, case-based reasoning, sensory

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