

46ESS-19: Engine Health Monitoring Systems - Aero

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For aircraft engine users, the performance of their engines is almost as important as the characteristics of the newly bought ones. That is why engine parameters are being continuously monitored and a large amount of data is achieved. Engine health monitoring consists of drawing conclusions about the state of an engine with that data. Therefore, it has the advantage of enabling the prediction of the degradation of different parts of the engine, thus, saving money by avoiding sudden ruptures and reducing unscheduled engine maintenance.

In this paper, an overview of different methods of engine health monitoring is given, specially the most used systems by aero engine users. Some historically important methods will also be mentioned, even though they are no longer used, as well as future trends in this area. These systems use the data gathered by engine sensors and using mathematical modelling and algorithms they are compared with previous data and engine characteristics. The correlations obtained from these studies are useful for detecting faults and degradation of different parts of the engine.