



Contribution ID: 137

Type: **not specified**

## **Challenges and obstacles in lifetime operational data modeling of czech military jet aircraft**

*Tuesday, June 28, 2022 11:30 AM (20 minutes)*

In Aerospace industry, high reliability and safety standarts must be ensured in order to eliminate hazards, where possible, and minimize risks where those hazards cannot be eliminated. Special attention is also paid to aircraft availability, a measure of the percentage of time aircraft can be flown on training or missions, and flying hours per aircraft per year, since this metric is usually used for overall readiness of military operator to react in case of need.

We will present parametric statistical models to combine information across multiple aircraft fleets in order to analyze and predict aircraft reliability data. Frequentist and Bayesian techniques will be shown and compared to each other in order to illustrate different statistical approaches. The whole process will be presented taking into account the design&development, certification, serial production and operation lifetime phases of an aircraft.

### **Keywords**

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**Session Classification:** CONTRIBUTED Reliability 2