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Type: **Poster Presentation**

Predictive Maintenance for a Cherenkov Telescope array

Wednesday, 1 June 2022 17:16 (3 minutes)

Cherenkov telescope arrays are equipped with a multitude of sensors spread all over the instrumentation and collect a large volume of housekeeping and auxiliary data coming from telescopes, weather stations and other devices in the array site.

In this poster we will present how we intend to exploit the sensor's information, together with the most advanced artificial intelligence algorithms, to perform predictive maintenance (PdM). This technique will be useful to detect in advance the remaining useful life of the array components, and to estimate the correct timing for performing their maintenance. The application of PdM will allow to minimize the array downtime, to increase the telescopes sub-components longevity, and to reduce the costs due to unforeseen maintenance. Our model will be trained and tested with time series data coming from a number of different sensors (temperature, current, torque, etc.) dedicated to monitor several mechanical components of the telescopes (engines, cameras, encoders, etc.). The adopted supervised machine learning approach will allow us to perform the correct trade-off between preventive and corrective maintenance.

Main Topic

Data mining

Secondary Topic

Participation mode

In person

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