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## Application of Complex Event Processing Software to Error Detection and Recovery for Arrays of Cherenkov Telescopes

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Data acquisition (DAQ) and control systems for arrays of Cherenkov telescopes comprise hundreds of distributed software processes that implement the readout, control and monitoring of various hardware devices. A multitude of different error conditions (malfunctioning detector hardware, crashing software, failures of network and computing equipment etc.) can occur and must be dealt with to ensure the speedy continuation of observations and an efficient use of dark time.

Flexible, fast and configurable methods for automatic and centralized error detection and recovery are therefore highly desirable for the current generation of ground-based Cherenkov experiments (H.E.S.S., MAGIC, VERITAS) and will be important for the Cherenkov Telescope Array (CTA), a more complex observatory with O(80) telescopes. The contribution describes a Java-based software demonstrator that was developed for the High Energy Stereoscopic System (H.E.S.S.) and uses the complex event processing engine ESPER for error detection and recovery. The software demonstrator analyses streams of error messages in the time domain and aims to apply recovery procedures that reflect the knowledge of DAQ and detector experts.

### Collaboration

– not specified –

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