

## CATALOGUING OF ITER SIMULATIONS USING SIMDB

*Making the ITER simulation database FAIR by creating a cataloguing tool with associated dashboard and access APIs*

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### Abstract

ITER already has a catalogue of around 2000 simulations stored in IMAS format. This catalogue will grow much larger as we approach the initial operational phase of the experiment. Alongside the simulation data are other catalogues including ITER machine description. To make this data useful to the community requires making it FAIR<sup>1</sup> (findable, accessible, interoperable, and reusable). The interoperable goal is handled by making the data available via the IMAS access library but to achieve the other FAIR goals requires handling of the data, its provenance and associated metadata, and making all these searchable.

To make the ITER data catalogues FAIR and maintainable into future operations the SimDB simulation cataloguing tool was developed. This tool consists of a command line interface, remote data servers and web-based dashboard and allows simulations to be ingested, tagged with additional metadata, pushed to remote storage, and made searchable via REST API queries or web-based searching. The existing ITER simulations have been ingested using SimDB and made available via the SimDB CLI and web dashboard.

The paper details the implementation of SimDB, the associated dashboard and querying tools, and the current state of the ITER data catalogue.

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<sup>1</sup> <https://www.go-fair.org/fair-principles>