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Automation during the equipment design process

Thursday 12 December 2024 14:20 (30 minutes)

Development philosophy of accelerator modelling tools
What tools are available outside of CERN? What do companies do today?
include a good example of the classic approach to hardware design simulations compared to a modern approach using faster and potentially even more precise tools
What needs to and can be done to replace parameter scans with optimisation algorithms? What's the potential benefit to the desing process?
How can surrogate models be used to replace heavy simulations (ANSYS, OPERA, particle tracking, ⋯)
Show examples of design processes across different groups (first automated studies in STI, ABT, what about other groups such as MSC, RF, BI?)
Address the topic of virtual diagnostics
ABT MKP ferrite temperature, STI target temperature
Digital twins - what's the status across groups?
Is there any MD time requested before LS3 related to the points addressed in the talk?

Presenter: HUHN, Francisco (CERN)

Session Classification: Equipment <-> Controls, data and automation