

WAO'18: Workshop on Accelerator Operations



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Chasing the Heat

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INTRODUCTION: designed and built in the first decade of the new Millennium, the fully digital PSI Main Control Room has now been in Operation for over a decade.

During this period demands on infrastructure and services have constantly risen.

METHODS: Designed for an estimated thermal power of 12kW, our cooling systems today have to handle 18kW of waste heat.

The installed system with cooling ceiling and air condition has come to its limits.

Facing this challenge we we have identified three possible solutions:

- lowering the energy consumption
- improve our cooling system
- avoid heat disposal to room air

RESULTS: every one of the examined possible approaches has its own challenges.

Furthermore we came to the conclusion, that even small changes on the control room infrastructure cannot just be done by “walk-in service” but have to be well coordinated, keeping in mind, the butterfly-effect which can cause effects, affecting the big picture.

However, it became apparent that the planning of the next-generation control room must start today and iterative extension of components (as has been done up till now) is reaching its limits.

DISCUSSION & CONCLUSIONS: regardless, which of the examined solution we will apply, there is no quick&simple, and foremost cheap solution in sight.

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