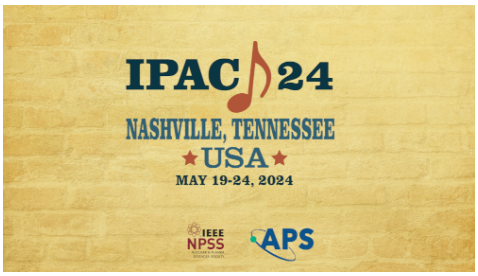

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First year of data taking with the electricity meter network for sustainable operation of the KIT accelerator facilities for the KITTEN project

Wednesday, 22 May 2024 16:00 (2 hours)

In times of climate change and with increasing challenges of the power grid stability due to unstable renewable energy sources, it is not sufficient to know the electric energy consumption of accelerator facilities. In order to optimize the operation of the research infrastructure in terms of stability, reliability and sustainability, the knowledge of the dynamics of energy consumers, and generators is mandatory.
Since a few years, KIT's accelerator teams collaborate with its EnergyLab 2.0, Europe's largest research infrastructure for renewable energies, within the KIT test field for energy efficiency and grid stability of large-scale research infrastructures (KITTEN). At the research accelerators KARA and FLUTE a dense network of power meters, more than 100 sensors of different kind, operate to observe from individual components to infrastructural components and the central electricity distribution. With more than one year of data taking for most of the sensors, we are already able to quantify implemented energy-savings measures. In this contribution the findings of the installation and the first analysis and savings within the more than one year data taking will be presented.

Footnotes

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