EPE '22 ECCE EUROPE September 5-9, 2022 Hannover, Germany

Modular power supply system for large scale water electrolyzers

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Abstract:

Since the demand for green hydrogen will rapidly increase over the next decade, an enormous upscaling of water electrolysis plants in the multi 100MW range is anticipated. There are several factors challenging the development of suited power supply systems: besides the increasing and yet unknown final block sizes of the large scale electrolyzers, support of the electrical grid and restrictions on the footprint of the power supply must be considered. The presentation will describe these challenges and it will give an insight in an ongoing development project of such a large scale power supply unit using transistor technology instead of traditional thyristor technology. This approach will facilitate a much easier (turn-key) grid integration and even grid support functionality.

Curriculum Vitae Ralf Juchem:

- 1988 : Diploma in Physics of the Philipps University Marburg, Germany
- 1995 : PhD (Dr. rer. nat.) of the University of Karlsruhe (KIT), Germany
    - Focus Physical Chemistry and Electrochemistry
- 1995 – 2002 : Head of Modeling and Simulation at the Institut für Solare Energieversorgungstechnik (ISET), Kassel, Germany
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