

# ISP Workshop on Switches for Pulsed Power Applications

Technical University Darmstadt  
Building S3/06, Lecture hall 052  
Landgraf-Georg-Straße, 64283 Darmstadt

## Workshop Agenda

Thursday, 23 March 2023

- 12h00 Registration & Welcome coffee  
(Please pay dinner here, 40 € cash payment only)
- 13h00 **Welcome**  
E. Spahn – Chairman of the Int. Society on Pulsed Power Applications e.V.  
G. Griepentrog – Prof. for Power Electronics at the TU Darmstadt
- 13h20 **Session I – Session chair:** Oliver Liebfried
- Development of a high voltage/high frequency solid state switch for a particle accelerator  
> *Lars Dresel (Technical University Darmstadt, Germany)*
- Deviation of commercial electrically and light-triggered thyristors from specified switch-on characteristics  
> *Joachim Kahl (Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany)*
- A saturable pulse transformer as a magnetic switch for an adjustable SOS generator  
> *Mawuena Rémi Degnon (University of Pau, France)*
- A high-voltage nanosecond opening switch based on TVS diodes  
> *Anton Gusev (University of Pau, France)*
- Experimental results of parallel connected high-voltage thyristors in impact ionization mode  
> *Ejlal Shahriari (University of Pau, France)*
- 15h00 **Group photo & coffee break**

Thursday, 23 March 2023

**15h30**    **Session II – Session chair:** Martin Sack

Marx Generator Improvements for Thyristors Triggered in Impact Ionization Mode

> *Thomas Maysonnave (University of Pau, France)*

Simulation considerations in impedance-matched Marx generators

> *Jeroen van Oorschot (Eindhoven University of Technology, The Netherlands)*

SiC MOSFET switching module development - History and recent progress

> *Rainer Bischoff (French-German Research Institute of Saint-Louis, France)*

Past, present and future developments of MOSFET-based impedance-matched Marx generators

> *Tom Huiskamp (Eindhoven University of Technology, The Netherlands)*

**17h10**    **Announcement: EAPPC 2024**

**17h20**    **End of sessions**

**19h00**    **Dinner at Grohe Brauhaus, Nieder-Ramstädterstr. 3, 64283 Darmstadt**

**Friday, 24 March 2023**

**09h00**    **ISP member meeting** (see Agenda on the next page)

**10h30**    **Coffee break**

**11h00**    **Session III** – *Session chair: Gerd Griepentrog*

Thyristor investigations for the application as opening switch for inductive pulsed power generators

> *M. Berard (French-German Research Institute of Saint-Louis, France)*

Research on pulsed power switches at KIT/IHM

> *Martin Sack (Karlsruhe Institute of Technology, Germany)*

Triggering M4: A gain enabled pulsed power facility for Inertial confinement fusion

> *Adam Turnbull (First Light Fusion Ltd., Oxford, UK)*

Design automation for power electronics - test methods and machine-readable data sheets

> *Philipp Kappes (PE Systems, Darmstadt, Germany)*

Pulsed high current magnet power supply with supercap energy storage

> *Michael Bader (Ampegon, Baden, Switzerland)*

**13h00**    **Lunch**, Cafeteria Fraunhofer IGD, Fraunhofer Str. 5, 64283 Darmstadt

**13h45**    **Transfer to the GSI** by public transport

Meeting point: In front of the Cafeteria

Departure: 13:57 Bus 5E/8E from Darmstadt Schloss to Darmstadt-Arheiligen → 14:23 Bus G from Darmstadt-Arheiligen to Darmstadt-Wixhausen Merianstraße/GSI; Arrival: 14:27

**14h30**    **Lab tour GSI Darmstadt**, Planckstraße 1, 64291 Darmstadt  
(GPS: 49.931507463491165, 8.679339769960155)

**16h30**    **End**

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## Agenda of the ISP member meeting

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1. Welcome and nomination of the secretary (Spahn)
2. Resolution of the agenda
3. Quorum of the meeting
4. Report of the managing committee (Spahn)
5. Current topics (Spahn)
  - a) 3rd ISP PhD workshop at ISL; How to continue?
  - b) ISP grants / awards; How to proceed in the future?
  - c) ISP-website
6. Report of the treasurer (Liebfried/Spahn)
7. Report of the cash auditors (Martin Hochberg/Anton Gusev)
8. Release of the managing committee
9. Election of the cash auditors
10. Election of the Managing Committee for the next 5 years
  - a) Election supervisor
  - b) Chairman
  - c) Deputy chairman
  - d) Treasurer
  - e) Secretary
  - f) First Assessor
  - g) Second Assessor
11. Resolution of the budget 2023
12. Appointed dates
13. Miscellaneous