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

Pulsed power at DESY
> Gregor Loisch (Deutsches Elektronen-Synchrotron DESY, Hamburg, 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**

Agenda of the ISP member meeting

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