

# Program

**Sunday, 03. October 2010**

**13:00 - 18:00 Uhr Registration**

- |               |                        |   |
|---------------|------------------------|---|
| 15:00 – 15:10 | H. - W. Hübers,<br>DLR | Welcome   |
| 15:10 - 16:25 | M.Wahl,<br>PicoQuant   | Time-resolved single photon detection                               |
| 16:25 - 16:45 | <b>Coffee break</b>    |   |
| 16:45 - 18:00 | A. Semenov,<br>DLR     | Superconducting single-photon detectors:<br>physics and performance |
| 18:30 - 20:30 | <b>Dinner</b>          |   |

**Monday, 04. October 2010**

07:00 - 08:45 **Breakfast**

08:45 - 09:00 H. - W. Hübers,  
DLR Welcome

### SQUID - Instruments

09:00 - 09:20 R. Stolz,  
IPHT Jena A HTS SQUID receiver system for transient electromagnetic measurements

09:20 - 09:40 I. Haverkamp,  
TU Ilmenau Linearity and dynamic range of a digital SQUID magnetometer

09:40 - 10:00 H. Dong,  
FZ Jülich Low field MRI detection utilizing a tuned HTS rf SQUID magnetometer

10:00 - 10:30 **Coffee break**

### Receivers and Detectors

10:30 - 10:50 K. Peiselt,  
IPHT Jena LABOCA-2 – a multiplexed 300 channel bolometer camera for 870 micrometer wavelength

10:50 - 11:10 P. Probst,  
IMS/KIT High-speed YBCO detectors for resolving picosecond THz pulses

11:10 - 11:30 P. Pütz,  
Uni zu Köln 1 – 3 THz hot electron bolometer mixers for GREAT

11:30 - 11:50 M. Rösch,  
IRAM Grenoble Development of lumped element KIDs for NIKA

11:50 - 14:00 **Lunch break**

### SQUID - Sensors

14:00 - 14:20 M. Kemmler,  
Uni Tübingen NanoSQUIDs for the investigation of small spin systems

14:20 - 14:40 V. Zakosarenko  
IPHT Jena SQUIDs based on submicrometer-sized Josephson tunnel junctions fabricated in the cross-type technology

14:40 - 15:00 S. Tinchev,  
BAS Ion modified HTc-Josephson junctions and SQUIDs: a review

15:00 - 15:30 **Coffee break**

### Josephson Junctions

15:30 - 15:50 B. Groß,  
Uni Tübingen Hot Spots and THz waves in single crystal Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8</sub> mesas

15:50 - 16:10 Ch. Brendel,  
TU Braunschweig HTS Josephson junction cantilever scanning FIR-Gaussian beam

16:10 - 16:30 K. Buckenmaier,  
Uni Tübingen Activation energy of fractional Josephson vortices

### 16:30 - 18:30 Poster Session

18:30 - 20:00 **Dinner**

20:00 **Program committee meeting**

**Tuesday, 05. October 2010**

07:00 - 09:00 **Breakfast**

### SFQ / RSFQ

- |               |                                 |   |
|---------------|---------------------------------|---|
| 09:00 - 09:20 | Y. Yamanashi,<br>Uni Yokohama   | Development of superconductive physical<br>random number generator            |
| 09:20 - 09:40 | Th. Ortlepp,<br>TU Ilmenau      | RSFQ based readout of superconducting single<br>photon detectors              |
| 09:40 - 10:00 | M. Khabipov,PTB<br>Braunschweig | Single flux quantum logic circuits with phase-inverted<br>Josephson junctions |
| 10:00 - 10:30 | <b>Coffee break</b>             |   |

### Devices for quantum electrodynamics and quantum optics

- |               |                                   |  |
|---------------|-----------------------------------|--|
| 10:30 - 10:50 | H. Bartolf,<br>Universität Zürich | Dissipative fluctuation mechanisms in superconductors  |
| 10:50 - 11:10 | D. Bothner,<br>Uni. Tübingen      | Reducing the microwave losses in superconducting -<br>resonators using antidots and magnetic history |
| 11:10 - 11:30 | M. Haeberlein,<br>WMI Garching    | Ultrastrong coupling between light and matter  |
| 11:30 - 11:50 | E. Hoffmann,<br>WMI Garching      | Hybrid rings for circuit quantum electrodynamics   |
| 11:50 - 12:00 | H. - W. Hübers,<br>DLR            | Closing  |
| 12:00 - 14:00 | <b>Lunch &amp; departure</b>      |  |

## Poster

1	A. Kirste, PTB Berlin	Development of a SQUID susceptometer for sample characterization at low temperatures
2	J. Nagel Uni Tübingen	Sensitive dc SQUIDs with sub-micron-sized Josephson junctions for operation in high magnetic fields
3	G. Zhang, Forschungs- zentrum Jülich	Discussion of noise performance of the SQUID bootstrap circuit (SBC) at different working points
4	F. Ruede, PTB Berlin	Readout of NanoSQUID sensors using a SQUID amplifier
5	St. Selig, Uni zu Köln	SIS mixers for 1.1 THz with electron beam defined tuning circuits on thin silicon substrates
6	A. Scheuring, IMS/KIT	Superconducting antenna-coupled YBCO bolometers at submillimeter wavelengths
7	G. Zieger, IPHT Jena	Optimization of a TES array for a passive video-rate THz security camera
8	M. Hofherr, IMS/KIT	Performance of SNSPDs at varying cooling conditions
9	T. Hongisto, PTB Braunschweig	Fabrication and characterization of NbSi nanowires for quantum phase slip experiment
10	D. Rall, IMS/KIT	Improvement of SNSPD detection efficiency by variation of NbN chemical composition
11	K. Ilin, IMS/KIT	TaN thin films for superconducting nanowire single-photon detectors
12+13	S. Wunsch, IMS/KIT	Monolithic integrated amplifiers for detector applications Design of LEKID structures for multi-pixel arrays
14	P. Macha, IPHT Jena	Losses in coplanar waveguide resonators at millikelvin temperatures
15	T.S. Skacel, IMS/KIT	Investigation of dielectric losses in amorphous thin films using superconducting microwave resonators
16	J.M. Meckbach, IMS/KIT	Nb/Al-AlO <sub>x</sub> /Nb fabrication process for high-quality Josephson junctions
17	Th. Scheller, PTB Braunschweig	Maßgeschneiderte Josephson-Kontakte mit Nb <sub>x</sub> Si <sub>1-x</sub> -Barriere
18	T. Schwarz, Uni Tübingen	Negative absolute resistance in annular Josephson junctions
19	U. Springborn, PTB Braunschweig	Optimierte programmierbare SINIS-Spannungsnormalschaltungen
20	S. Engert, TU Ilmenau	RSFQ circuits with reduced power consumption
21	O. Mielke, IPHT Jena	Experimental investigations of an RSFQ 8-Bit-Shiftregister with phaseshifter
22	T. Haddad, TU Ilmenau	Frequency limitation for superconducting AD converter