

## 1st GIF workshop on "Exploration of Electrodynamics"

15 August 2011 – 17 August 2011 – ZARM, University Bremen – Room 1280

Organization: Claus Lämmerzahl (ZARM, Bremen)

- the talks should be 45 - 60 minutes
- the rest of the time is reserved for extended discussions
- discussions include brainstorming discussions about possible future research directions in the area of electrodynamics

### Monday, 15 August 2011

- 09:30 - 11:00 Y. Friedman (Jerusalem, with T. Scarr)  
Covariant uniform acceleration
- 11:00 - 11:30 Coffee
- 11:30 - 13:00 F.W. Hehl (Cologne)  
On some open questions in classical premetric electrodynamics
- 13:00 - 14:30 Lunch
- 14:30 - 16:00 Y. Itin (Jerusalem)  
Covariant metric-free jump conditions in electromagnetism
- 16:00 - 16:30 Coffee
- 16:30 - 18:00 V. Perlick (ZARM, Bremen)  
On the initial-value problem of Maxwell's equations in metric-free form

### Tuesday, 16 August 2011

- 09:30 - 11:00 C. Laemmerzahl (ZARM, Bremen)  
On the structure of electrodynamics

- 11:00 - 11:30 Coffee
- 11:30 - 13:00 J. Kunz (Oldenburg)  
Charged black holes
- 13:00 - 14:30 Lunch
- 14:30 - 16:00 M. List (ZARM, Bremen)  
Q-balls and Q-shells
- 16:00 - 16:30 Coffee
- 16:30 - 18:00 B. Hartmann (Jacobs University Bremen)  
Breaking a  $U(1)$  gauge symmetry close to a black hole horizon with applications to superconductivity

Wednesday, 17 August 2011

- 09:00 - 10:30 V. Perlick (ZARM, Bremen)  
Finsler gravity
- 10:30 - 11:00 Coffee
- 11:00 - 12:30 V. Kagramanova (Oldenburg)  
Charged particle motion in Reissner-Nordstroem space-times - complete set of analytic solutions
- 12:30 - 14:00 Lunch
- 14:00 - 15:00 H. Xu (ZARM, Bremen)  
Complete set of analytic solutions of the equation of motion of charged particles in Kerr-Newman space-times (master thesis colloquium)
- 15:00 - 15:30 Coffee
- 15:30 - 17:00 V. Dzhunushaliev (Bishkek, with K. Zloshchastiev)  
The model of charged particle described by the relativistic logarithmic wave equations
- 17:00 - 18:00 P. Schupp (Jacobs University Bremen)  
Non-commutative electrodynamics and charge (non-)quantization