

Uppsala University

Department of Engineering Sciences

Division for Electricity and Lightning Research

- Lightning and EMC group
- Renewable Energy (since 2000)



Personnel (EMC and lightning)

- 2 professors
 - 2 researchers
 - 6 Ph.D students
- (9 Ph.D students graduated in the last 5 years)
- Exjobb students
 - Visiting research students

Research topics

- Properties and physics of lightning
- Lightning protection
 - Grounding
 - Lightning attachment
 - Surge protection
- Lightning interaction with power and railway system
- EMI to railway networks
- Lightning interaction with towers
- NOx production from lightning
- Susceptibility of civilian networks to Intentional EMI

Actual Research projects

Lightning interaction with tall towers (VR, FMV, Räddningsjänst)

Lightning protection and EMC of railways (Banverket, Bombardier)

Surge protection devices (Jensen, FMV)

Defence against intentional electromagnetic interference (KBM)

Trace gas species production by atmospheric discharges (VR)

European Union Project COST Action P18

Title: The Physics of Lightning Flash and its Effects

Objective: To increase our knowledge of the physics of the lightning discharge and of its effects on natural and man-made systems

Project period: 2005-2009 (Groups from more than 20 countries)

Website: www.costp18-lightning.org

Chairman: Rajeev Thottappillil, UU, Sweden

Other activities

1) Journal of Lightning Research

(The only peer reviewed journal devoted to lightning research. First issue in 2006, Editor – Vernon Cooray, Web: www.jolr.org)

2) Activities in international scientific organisations eg., CIGRE, IEC

Lab facilities

High Voltage and High Current Lab:

- 200 kA impulse current generator
- 900 kV impulse voltage generator
- 300 kV dc generator
- 60 kV ac generator

HPM generator

EFT generator

Shielded room

EMC chamber planned in 2006-2007