

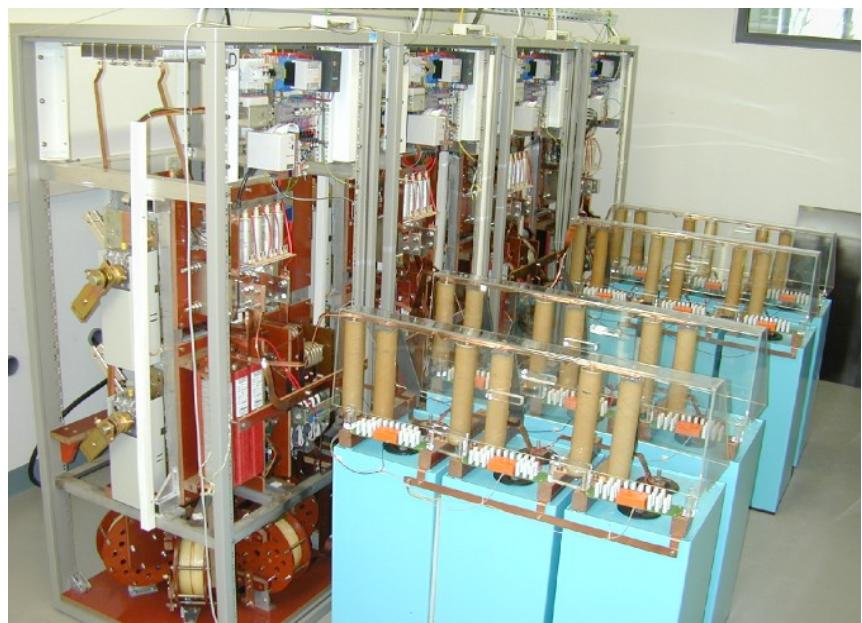
# 50 T Pilot Project

Forschungszentrum Dresden Rossendorf e.V.  
Institut für Festkörper- und Werkstoffsorschung Dresden  
Max-Planck-Institut für Physik komplexer Systeme  
Max-Planck-Institut für Chemische Physik fester Stoffe  
Technische Universität Dresden, Institut für Angewandte Physik

**Objective:** Achieving experience and knowledge for the setup of a 50 MJ bank for the 100 T project,  
Development of high strength conductors



Cryostat and coil inside armored box



Capacitor bank: 4 modules, total energy 1 MJ at 10 kV

## Main specifications of the Dresden High Magnetic Field Laboratory

### Capacitor bank

Voltage 10 kV  
Energy 1 MJ  
Shortcut current 90 kA  
4 modules, 250 kJ each  
12 capacitors, 20 mF

### Coils

50 T, 10 ms rise time, 24 mm bore (Tallahassee)  
40 T, 80 ms rise time, 24 mm bore (Metis)  
Variable crowbar resistance of R1 = 0 and 0.4 Ohms  
Positive and negative pulses by means of industrial circuit breakers

### Cryostat

Temperature range from 1.5 ... 300 K  
Sample space 5 mm diameter, 5 mm height

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