AVAILABLE EXPERIMENTS

Experimental techniques	Nijmegen	Grenoble	Dresden	Toulouse
Optical spectroscopy and magneto-optics				
Optical microscope imaging	✓	✓		
Birefringence, Dichroism and Faraday rotation	✓	✓		✓
(Micro-) photoluminescence spectroscopy	✓	✓	✓	✓
(Micro-) Raman scattering	✓	✓		
(Far) Infrared spectroscopy	✓	✓	✓	✓
Ultrafast dynamics	✓			
Thermodynamic properties				
Dilatometry	✓			
Magnetocaloric effect			✓	
Specific heat	✓	✓		
Thermopower and Nernst-Ettingshausen	✓	✓		✓
DC/AC susceptibility	✓	✓		
Compensated-coil magnetometry	✓		✓	✓
Torque magnetometry	✓	✓	✓	✓
Magnetostriction and thermal expansion (under uniaxial strain)	✓		✓	
Ultrasonic measurements (sound velocity and attenuation)		✓	✓	✓
Magnetotransport				
Magnetotransport with in-situ sample rotation	✓	✓	✓	✓
Critical current of superconductors (wires, tapes and coils)		✓		
'Contactless' transport (TDO, PDO)	✓		✓	✓
Magnetic resonance				
Electron spin resonance		✓	✓	
Nuclear magnetic resonance		✓	✓	✓
Advanced sources				
Free electron laser	✓		✓	
X-Ray Spectroscopies				✓
Environments				
^{4}He cryostats (1.5 – 300 K)	✓	✓	✓	✓
^{3}He cryostats (down to 300 mK)	✓	✓	✓	✓
Dilution refrigerators (down to 30 – 100 mK)	✓	✓	✓	✓
Thermostats up to 300°C	✓	✓		
High pressure	✓	✓	✓	✓
Uniaxial strain	✓			
Other				
Megagauss facility (semi-destructive fields > 170 T)				✓
Mobile 1 MJ installation allowing X-rays, laser and neutron scattering under pulsed magnetic fields				✓
Levitation	✓	✓		
Thermometry	✓	✓	✓	

EMFL
European Magnetic Field Laboratory

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 871106 and Nº 951714.

HOW TO OBTAIN ACCESS

Twice a year (deadlines May and November 15) a call for proposals is launched. Access to one or more of the infrastructures will be given for research in high magnetic fields, provided that the research proposal is positively rated by a Selection Committee based on:

- **scientific quality and originality of the proposal;**
- **necessity for the use of the infrastructure;**
- **past performance of the applicants.**

Users are strongly advised to contact the facility in order to prepare a better proposal or to investigate the feasibility of the work and possibly identify your local contact. Access implies the use of the installation, the use of all available auxiliary equipment and (if necessary) support by local staff.

Here you will find the online proposal form:
www.emfl.eu/apply-for-magnet-time

NETWORKING ACTIVITIES

- **Schools**
- **Exchange Programmes**
- **User Committee**
- **User Meeting**
- **EMFL NEWS**
- **EMFL prizes**
- **Workshops**
- **and many more**

As of: 10/2021

CONTACT

- **HFML Nijmegen**
  www.ru.nl/hfml
- **LNCMI Toulouse and Grenoble**
  www.lncmi.cnrs.fr
- **HLD Dresden**
  www.hzdr.de/hld

EMFL
European Magnetic Field Laboratory

FIELDS FOR SCIENCE

IN THE
EUROPEAN
MAGNETIC
FIELD
LABORATORY

WWW.EMFL.EU

FIELDS FOR SCIENCE

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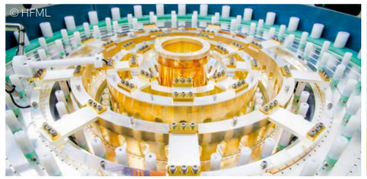
High magnetic fields are one of the most powerful tools available for scientists to study, to modify and to control the states of matter. The European Magnetic Field Laboratory (EMFL) is dedicated to generating the highest possible magnetic fields that can be used for scientific research and to making these fields available to the scientific community. It has four sites: Dresden (pulsed fields), Grenoble (DC fields), Nijmegen (DC fields) and Toulouse (pulsed fields). All sites are equipped with a sophisticated infrastructure to generate the highest fields for a wide variety of advanced experiments.

WWW.EMFL.EU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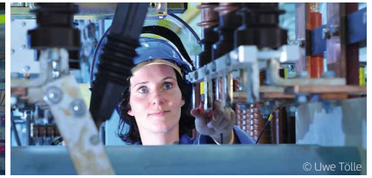
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EMFL SITE NIJMEGEN

HIGH FIELD MAGNET
LABORATORY

The **High Field Magnet Laboratory** (HFML) in Nijmegen is committed to generate the highest available continuous magnetic fields. HFML is a Dutch large European research facility open for external researchers and operated by the Radboud University Nijmegen (RU) and the Institutes Organisation of the Dutch Research Council (NWO). Its research programme is part of the Institute for Molecules and Materials (IMM).

EMFL SITE DRESDEN

DRESDEN HIGH MAGNETIC FIELD
LABORATORY

The **Dresden High Magnetic Field Laboratory** (Hochfeld-Magnetlabor Dresden, HLD) at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) focuses on modern materials research in high magnetic fields. It serves as a research facility for both in-house and user projects and provides research opportunities for pulsed magnetic fields up to 90 Tesla. The HLD aims at reaching magnetic fields up to the feasibility limit of about 100 Tesla.

EMFL SITES TOULOUSE AND GRENOBLE

LABORATOIRE NATIONAL DES CHAMPS
MAGNÉTIQUES INTENSES

The **Laboratoire National des Champs Magnétiques Intenses** (LNCMI) is a French large-scale facility enabling researchers to perform experiments in the highest possible magnetic fields. Continuous fields are available at the Grenoble site (LNCMI-G) and pulsed fields at the Toulouse site (LNCMI-T). The LNCMI is open to European and other visitors for their high-field projects. The LNCMI is a CNRS laboratory, associated with the Institut National des Sciences Appliquées de Toulouse, the Université Toulouse III – Paul Sabatier and the Université Grenoble Alpes.

AVAILABLE MAGNETS

DC FIELDS NIJMEGEN AND GRENOBLE

Magnetic field (T)	Bore diameter (mm)	Homogeneity (x10^{-6}) in 1 cm DSV	Facility	Remarks
6	284	450	G	
10	376	250	G	
13	130	30	G	
20	170	600	G	
30	50	640	N	
31	50	860	G	
33	32	1020	N	
36	34	700	G	
38	32	860	N	

N = Nijmegen, G = Grenoble

PULSED FIELDS TOULOUSE AND DRESDEN

Magnetic field (T)	Bore diameter (mm)	Pulse duration (ms)	Facility	Remarks
53	24	75	D	
60	40	1200	D	
60	13	250	T	
60	28	500	T	
65	20	25	D	
65	24	150	D	Rapid cooling
70	24	150	D	
70	13	200	T	
80	13	30 (inner coil) 900 (outer coil)	T	
90	8	30 (inner coil) 900 (outer coil)	T	
90 +	16/12	10 (inner coil) 120 (outer coil)	D	
170 +	8	0,008	T	Semi-destructive

T = Toulouse, D = Dresden