Equipment for measurements of magnetic remanence with step-wise AF/TH demagnetization

755–1.65 2G Enterprises cryogenic magnetometer DC SQUID with AF degausser, max. field 160 mT; (by 2G Enterprises, USA)

JR6a automated dual speed spinner magnetometer (Agico, Czech republic) (funded by EPOS-PL)

MMTDSC - Nonmagnetic furnace for thermal demagnetization of up to 24 specimens up to 800°C, , by Magnetic Measurements, Great Britain (controlled atmosphere option available, pTRM available) (funded by EPOS-PL) – to be set at April 2018

MMTD-80 Nonmagnetic furnace for thermal demagnetization of up to 80 specimens up to 800°C, by Magnetic Measurements, Great Britain (controlled atmosphere option available, pTRM available)

MMTD1 Nonmagnetic furnace for thermal demagnetization of 18 specimens up to 800°C, by Magnetic Measurements, Great Britain

Equipment for acquisition of magnetic remanence

LDA5/PAM1 Alternating Field Demagnetizer/ Anhysteretic and Pulse Magnetizer, AF peak field of 200mT, DC field 500uT, pulse 20mT – Agico Czech Republic (funded by EPOS-PL)

LDA3a/AMU1a, Alternating Field Demagnetizer/ Anhysteretic Magnetizer, AF peak field of 100mT, DC field 500uT – Agico Czech Republic

Two MMPM10 pulse magnetisers imparting isothermal remanent magnetization (IRM) in fields to 3T (specimens 1”) and in fields up to 9T (specimens 0.5), Magnetic Measurements, Great Britain (one funded by EPOS-PL - to be set at April 2018)

SI6 - Pulse magnetiser imparting isothermal remanent magnetization (IRM) in fields to 1.1T (for 1” specimen), Sapphire Instruments, Canada

Two MMLFC low field cages, Magnetic Measurements, Great Britain to host equipment (one funded by EPOS-PL, to be set at April 2018)

*Applications:*

*Measurements of magnetic remanence of low intensity*

*Thermal demagnetization of various kinds of magnetic remanence (natural and laboratory induced)*

*Demagnetization of remanence with AF field*

Equipment for magnetic susceptibility measurements

KLY-5A/CS-4/CS-L Susceptibility bridge for measurements of in- and out of phase of susceptibility and its anisotropy in room temperature and susceptibility in air or argon during heating from room temp. to 700°C and in temperature range from -194°C (liquid nitrogen) to room.temp., Agico, Czech Rep., equipped in 3D rotator (funded by EPOS-PL)

MFK1-FA - Susceptibility bridge for measurements of susceptibility and its anisotropy in room temperature in a wide range of field intensity in 3 frequencies of field ( 2-700 A/m in 976Hz, 2-350 A/m in 3904 Hz, 2-200 A/m in 15616 Hz)., Agico, Czech Rep. (CS4-/CS-L compatible)

KLY-3/CS-3/CS-L - Susceptibility bridge for measurements of susceptibility and its anisotropy in room temperature and susceptibility in air or argon during heating from room temp. to 700°C and in temperature range from -194°C (liquid nitrogen) to room.temp., , Agico, Czech Rep.

KLY2 Susceptibility bridge for measurements of low field magnetic susceptibility and its anisotropy Geofyzika Brno, Czechoslovakia

MS2 battery powered portable susceptibility meter with a set of sensors (MS2B dual frequency lab sensor, MS2C100 core logging sensor, MS2D surface scanning probe, MS2F surface point probe, MS2G laboratory small size sample sensor, MS2K surface scanning probe) (Bartington, UK), funded by EPOS-PL

MS3 battery powered field susceptibility meter (Bartington, UK)- funded by EPOS-PL

SM30 field magnetic susceptibility meter (ZH Instruments, Czech Republic)

Applications:

Measurements of magnetic susceptibility of various materials (rocks, minerals, organic matter, dusts, liquids) for selected field frequences and wide range of field intensity

Measurements of changes of magnetic susceptibility of powdered samples with temperature (-170°C - 700°C) in air and neutral atmosphere- detection of ferrimagnetic materials

Measurements of anisotropy of magnetic susceptibility of weak samples - for paleomagnetic and tectonic studies

Measurements of magnetic susceptibility in the field (mapping, outcrop and core logging, etc.)

Equipment for studies of magnetic hysteresis and Curie temperatures

Micromag AGFM 2900-02 Alternating gradient force magnetometer for measurements of magnetic hysteresis of very fine samples (up to 50 ug) in room temperature, max. field 1.4T, Princeton Measurements Corp., USA

AVFTB (Advanced Variable Field Translation Balance) – for hysteresis studies combined with M(T) and K(T) measurements at -170°-800°C temperature range, maximum field of 1.6T, samples up to 0.5g – Pedersen Instruments, Magnetic Measurements, Great Britain)

VSM Nuvo Vibrating Sample Magnetometer for hysteresis measurements of magnetically strong specimens, max. field 1T, Molspin Ltd, Gr. Britain

Applications:

Measurements of parameters of magnetic hysteresis (coercivity, Mr/Ms ratios, Hcr/Hc ratios) for rock samples, soils, dusts, man-made materials (down to 10-30mg samples)

Detection of magnetic phases and their domain states (Day-Dunlop plots)

FORC analysis for detection of domain states (Micromag)

STEPS III Apparatus for measurements of isothermal remanence during heating specimen in the air to 700°C in compensated external magnetic field, TUS, Poland (under reconstruction)

Applications:

1. Detection of the Curie/blocking temperatures of ferromagnetic materials (SIRM(T))

2-3. Imparting of the laboratory generated magnetization for rock-magnetic studies of rock samples, soils, dusts

4. Imparting of the laboratory generated magnetization for rock-magnetic studies of rock samples