

SEMINAR ON MAGNETISM AND SUPERCONDUCTIVITY

We kindly inform You that on **Wednesday**

December 13th at 10:00

there will be a **seminar in room 203, building I**

where

MSc. Artem Lynnyk

(Institute of Physics PAS)

will deliver a lecture on:

“Determination of superconducting state parameters of selected cuprates and intercalated iron chalcogenides by means of SQUID magnetometry”

The study of phase diagrams of specific superconductors helps us to understand their fundamental superconducting state properties. In presented work, the influence of granularity on superconducting state of polycrystalline copper-based $\text{CuBa}_2\text{Ca}_3\text{Cu}_4\text{O}_{10+\delta}$ material is studied with SQUID dc magnetometry technique. Although high quality of target phase is confirmed by high values of upper critical field H_{c2} (91 T at 77 K) and irreversibility field H_{irr} (21 T at 77 K), there is a strong limitation of intergrain critical current density with regard to intragrain one. Simultaneously, iron-based polycrystalline $\text{Li}_x(\text{C}_2\text{H}_8\text{N}_2)(\text{Fe}_y\text{Se}_z\text{S}_{1-z})$ intercalated systems reveal big amount of magnetic inhomogeneities, which are supposed to co-exist with superconducting phases well below T_c . In order to investigate $H_{c2}(T)$ phase diagram in this case, ac susceptibility measurements in external dc bias field were applied.

The seminar will be given in English on-site in room 203, though the ZOOM transmission will be available - link is provided on the IP PAS website.

We sincerely invite You

**Roman Puźniak
Andrzej Szewczyk
Henryk Szymczak**