

SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA

Uprzejmie zawiadamiamy, że w **środe**
21 kwietnia 2021 r., o godz.10:00

odbędzie się seminarium **on-line (link podany jest na stronie IF PAN)**,
na którym

prof. dr. Alexander Shengelaya

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wyłosi referat na temat:

“Unusual normal and superconducting properties of tungsten oxide $WO_{2.9}$ ”

In this talk I will present results of our studies of oxygen reduced tungsten oxides WO_{3-x} . In the samples with one particular composition $WO_{2.9}$ ($W_{20}O_{58}$) the signatures of superconductivity with the transition temperature $T_c = 80$ K were registered by means of magnetization measurements. After lithium intercalation the T_c further raised to 94 K [1]. The small superconducting volume fraction and the absence of clear transition in resistivity measurements indicate that the superconductivity is localized in small regions which do not percolate. Performed resistivity and magnetoresistance measurements show that $WO_{2.9}$ has also unconventional normal state properties, which can be understood by taking into account bi-polaronic nature of charge carriers in this compound [2].

[1] A. Shengelaya, K. Conder, K. A. Müller, *J. Supercond. Nov. Magn.* 33, 301 (2020).

[2] A. Shengelaya, F. La Mattina, K. Conder, *Condens. Matter* 5, 63 (2020).

Serdecznie zapraszamy

Roman Puźniak
Andrzej Szewczyk
Henryk Szymczak