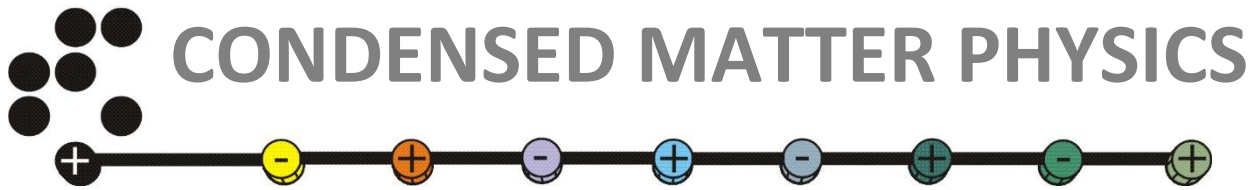


F-5 SEMINAR



*Friday, June 3, 2022
at 10:30 AM*

*in the seminar room of physics (room 106)
Condensed Matter Physics, Jožef Stefan Institute*

***Matej Bobnar, PhD**
Jožef Stefan Institute, Ljubljana*

Research of the structural details of thermoelectric materials

Thermoelectric materials have the ability to interconvert heat and electricity, which plays an important role in many specific applications. Firstly, in supplying electric power for sensors, remote probes and the recycling of the waste heat, and secondly, for the transport of heat, either for cooling or heating, without the necessity for moving parts or working fluids. In the talk, I will present three materials as potential thermoelectrics in different stages of research. Na substituted PbTe is a well-established thermoelectric material, whose efficiency might be improved by better understanding its structural details. $\text{Ba}_8\text{Al}_6\text{Si}_{39.1}$ is a clathrate, which are cage compounds recently being researched for their thermoelectric properties. And finally, the difficulties of finding a potentially new TE material are exposed in the characterization of TaGeIr.

The presentation will focus on uncovering the crystal structure details of these materials, also with the help of NMR, and the effects of these details on their physical properties (electric and thermal conductivity, Seebeck coefficient).

You are cordially invited to attend.