

LABORATORY OF CRYOGENIC TECHNIQUES AND TECHNOLOGIES

Laboratory Head: Dr. Guram Dgebudze

Major Scientific Directions:

- Cryogenic Vacuum Devices and Technologies;
- High-Temperature Superconductors Technology and Research;
- Nanostructured Materials Technologies and Research.

Lab activities (brief description):

- Cryogenic vacuum pumps, cryostats and high gas flow pumping cryovacuum devices, thermophysical and engineering calculations, technology development, manufacturing and research;
- High-temperature superconducting materials synthesis technologies, Investigation physical and chemical properties of HTS materials;
- Nanostructured powders and composites obtaining technologies and research by the physical methods (magnetron, electronic-arc, impulsive - diode);
- Thin films coating technologies processing and research;
- Hydro-pulse devices and technology development.

Experimental Base:

Cryogenic vacuum pumps and cryostats research unit; vacuum deposition and research devices; high-temperature superconducting materials synthesis and research area; physical methods (magnetron, electronic - arc, impulsive - diode) nanostructured powders obtaining equipment; chemical processing area; measurement and research tools.

Scientific Projects:

1. **SRNSF** - №FR/261/6-260/14 „Sol-gel Methods and Polymerization for synthesized Tl-based Polycrystalline Superconductors“, 05/05/2015-15/04/2018.
2. **SRNSF** - #FR/423/6-260/12 “Investigations of the arsenic and antimony containing compound doping influence on phase formation and superconducting properties in the Hg-1223 high-temperature superconductor”, 15/04/2013-15/04/2016.
3. **SRNSF** - №19/09 „Preparation and Investigation of YBaCuO“, 20/12/2012-20/03/2013.
4. **SRNSF** - Short-term Individual Travel Grants: 1) №03/91, 14.08.2012; 2) №03/137, 01.08.2013; 3) №03/35, 29.07.2015.

Lab Employees by positions:

Dr. Ioseb Metskhvarishvili – Senior Scientist;
Bezhan Bendeliani – Research Fellow;
Vladimer Chanturidze - Research Fellow;
Malkhaz Chochia - Engineer;
Nadezhda Mumladze - Technician.

