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MISSIONS OF THE LABORATORY

• Laser development
• Laser ion source development
• Resonance ionization spectroscopy for atomic and nuclear research
• Resonance ionization mass spectrometry for applied research

ACTIONS

Fundamental Research:
• Spectroscopy of high-lying atomic energy levels for studies of fundamental atomic properties (e.g. the ionization potential).
• High-resolution spectroscopy for studies of nuclear properties (e.g. isotope shifts, nuclear moments) on stable or long-lived isotopes.

Applied Research:
• Preparation and direct implantation of high-purity radioisotopes for fundamental research (ECHo-Project) and medical applications (MEDICIS-Project).
• Laser ionization scheme development for efficient ionization and ultra trace analysis applications (SIRIUS-Project).
• Pulsed laser deposition for various applications.

Innovation activities:
• Development of dedicated Source Units for isobaric contamination suppression and high-resolution spectroscopy.
• Development of high-power pulsed Titanium:sapphire lasers.
• Frequency doubling, tripling and quadrupling units.
• Wide-range tunable laser design.
• Injection-locked narrow bandwidth laser design.

Technology Transfer:
• Distribution of Ti:sapphire laser systems to laser ion source laboratories worldwide via direct collaborative approach.
**KEY DATA (2016)**

- **Staff:** 1 permanent plus 9 temporary researchers
- **Users:** worldwide RILIS network
- **Available Beams:** stable and long-lived radioisotopes
- **Scientific Production:** publications and conference contributions
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