



# SCIENCE AND TECHNOLOGY RECOVERY: RESEARCH UNIVERSITY

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## LASER RESEARCH. Lab



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### Areas of interest

Study of excited states in solid, liquid and gas states by femtosecond laser light

Ultrashort laser pulse spectroscopy, development of femtosecond laser

Quantum optics  
New laser material

It was established in 2018 by supporting by Asian Development Bank. The main research is focused on ultrafast spectroscopy, nonlinear optics, non-linear phenomena, quantum optics, new laser materials. The laboratory provides to young students the ability to understand the physics of lasers and applications both theoretically and experimentally. Furthermore, high-quality scientific research is realized through its modern equipment. The laser physics laboratory currently focuses on studying the interaction between solid materials (ZnSe, GaAs, Strongly correlated systems) and external electric or magnetic fields.

### Results:

- We have developed standard transmission and reflectivity pump-probe spectroscopy with ultra-short laser pulse. The excitation of coherent phonons in the GaAs and spectral resolved pump-probe measurements done in ZnSe semiconductors.
- We have successfully constructed NUM-Ti:Sa laser in Laser research laboratory.
- Surface-plasmon resonance biosensor (this optimized setting is applied as purpose for detection of negative and positive hepatitis D virus)

