

# RESEARCH AT PHYSICS ENGINEERING DEPARTMENT

Faculty of Science and Letters

# RESEARCH LABORATORIES AT PHYSICS ENGINEERING DEPARTMENT

- Dielektrik Spektroskopisi Laboratuvarı ▶ Dielectric Spectroscopy Lab.
- Elektrokimyasal Ölçüm Laboratuvarı ▶ Electrochemical Measurement Lab.
- Hesaplamalı Nanoyapılı Malzemeler Laboratuvarı ▶ Computational Nano Materials Lab.
- İnce Film Kaplama ve Karakterizasyon Laboratuvarı ▶ Thinfilm Coating & Characterization Lab.
- Lazer Spektroskopisi Laboratuvarı ▶ Laser Spectroscopy Lab.
- Lazer Malzeme Sentezi ve Optik Laboratuvarı ▶ Laser Material Synthesis and optics Lab.
- Manyetik Malzeme Araştırma Laboratuvarı ▶ Magnetic Materials Research Lab.
- Manyetizma ve Düşük Sıcaklıklar Laboratuvarı ▶ Magnetic Materials and Low Temperature Research Lab.
- MOSpekt- Moleküler Spektroskopisi Laboratuvarı ▶ Molecular Spectroscopy Lab.
- Nano Boyutta Yüzey Bilimi Laboratuvarı ▶ Nano Size Surface Science Lab.
- Nanomekanik Laboratuvarı ▶ Nanomechanics Lab.
- Nanosem Laboratuvarı ▶ Nanosem Lab.
- Nükleer Fizik Araştırma Laboratuvarı ▶ Nuclear Physics Research Lab.
- Reolojik Ölçümler & Nanokompozit Üretim ve Araştırma Laboratuvarı ▶ Rheological Measurements & Nanocomposite Material Lab.
- Sıvı Kristal Araştırma Laboratuvarı ▶ Liquid Crystal Research Lab.
- Spektroskopisi Laboratuvarı ▶ Spectroscopy Lab.

# DIELECTRIC SPECTROSCOPY LAB.

DIELEKTRİK SPEKTROSKOPİ LABORATUVARI

Responsible Person: Prof. Dr. Ferid SALEHLİ

<http://www.fizik.itu.edu.tr/salehlif>

Research Interests:

- ▶ Conductivity Spectroscopy
- ▶ Real Dielectric Constant Spectroscopy
- ▶ Imaginer Dielectric Constant Spectroscopy

# ELECTROCHEMICAL MEASUREMENT LAB.

ELEKTROKİMYASAL ÖLÇÜM LABORATUVARI

Responsible Person: Doç. Dr. Esra Zayim

<http://www.fizik.itu.edu.tr/zayim>

Research Interests:

- ▶ Electrochromic Material Characterization
- ▶ Cyclic Voltammetry and Pulse Potential Measurements
- ▶ Transmittance and absorbance Measurements

# COPUTATIONAL NANO MATERIALS LAB.

HESAPLAMALI NANO YAPILI MALZEMELER LABORATUVARI

Responsible Person: Doç. Dr. Sondan Feyiz Durukanoğlu

<http://www.fizik.itu.edu.tr/durukans>

Research Interests:

- ▶ Computation on Nano Structured Materials

Software :

- ▶ PWSCF (Quantum Espresso) Density Functional Theory
- ▶ VMD - Visual Molecular Dynamics
- ▶ LAMMPS - Molecular Dynamic Simulator

# THINFILM COATING & CHARACTERIZATION LAB.

İNCE FİLM KAPLAMA VE KARAKTERİZASYON LABORATUVARI

Responsible Person: Prof. Dr. Fatma Z. Tepehan

<http://www.fizik.itu.edu.tr/tepehanf>

Research Interests:

- ▶ Transmittance and Reflectance Measurement
- ▶ Refractive index and Absorption Coefficient Calculation
- ▶ Film Thickness and Surface Roughness Measurements
- ▶ Optical Absorption
- ▶ Structure Analysis
- ▶ Surface Structure Imaging

# LASER SPECTROSCOPY LAB.

LASER SPEKTROSKOPİ LABORATUVARI

Responsible Person: Doç. Dr. Günay Başar

<http://www.fizik.itu.edu.tr/basarg>

Research Interests:

- ▶ Raman, Micro Raman and Trapping Raman Spectroscopy

# LASER MATERIAL SYNTHESIS AND OPTICS LAB.

LAZER MALZEME SENTEZİ VE OPTİK LABORATUVARI

Responsible Person: Prof. Dr. Gönül Özen

<http://www.fizik.itu.edu.tr/ozeng>

Research Interests:

- ▶ Luminescence Spectroscopy Investigation
- ▶ Molecular Structure Analysis using Raman Spectroscopy
- ▶ Quantum Efficiency
- ▶ Absorption Spectrum Investigation

# MAGNETIC MATERIALS RESEARCH LAB.

MANYETİK MALZEME ARAŞTIRMA LABORATUVARI

Responsible Person: Yard. Doç. Dr. Baki Altunçevahir

<http://www.fizik.itu.edu.tr/tr/member.php?id=5>

Research Interests:

- ▶ Magneto resistance Measurements (AMR, GMR, MTJ)
- ▶ Magneto Striction Measurements
- ▶ Curie Temperature Measurements
- ▶ Magnetic Moment and Coercivity Measurements

# MAGNETIC MATERIALS AND LOW TEMPERATURE RESEARCH LAB.

MANYETİK MALZEMEVE DÜŞÜK SICAKLIKLAR ARAŞTIRMA LABORATUVARI

Responsible Person: Doç. Dr. Orhan Kamer

<http://www.fizik.itu.edu.tr/tr/member.php?id=4>

Research Interests:

- ▶ Conductivity Measurements (RT to 4.2K)
- ▶ Hysteresis Measurements (RT to 4.2K)
- ▶ Magnetic Susceptibility Measurements (RT to 1000K)

# MOLECULAR SPECTROSCOPY LAB.

MOSPEKT- MOLEKÜLER SPEKTROSKOPİ LABORATUVARI

Responsible Person: Prof. Dr. Yaşar Yılmaz

<http://www.fizik.itu.edu.tr/yilmazy>

Research Interests:

- ▶ Fluorescence and Absorption Spectroscopy Measurements

# NANO SIZE SURFACE SCIENCE LAB.

NANO BOYUTTA YÜZEY BİLİMİ LABORATUVARI

Responsible Person: Yard. Doç. Dr. Oğuzhan Gürlü

<http://www.fizik.itu.edu.tr/tr/member.php?id=70>

Research Interests:

- ▶ Optic Microscopy
- ▶ Tunneling Microscopy

# NANOMECHANICS LAB.

NANOMEKANİK LABORATUVARI

Responsible Person: Yard. Doç. Dr. H. Özgür Özer

<http://www.fizik.itu.edu.tr/tr/member.php?id=70>

Research Interests:

- ▶ High Resolution Surface Imaging using AFM and STM

# NANSEM LAB.

NANOSEM LABORATUVARI

Responsible Person: Prof. Dr. Hilmi Ünlü

<http://www.fizik.itu.edu.tr/unluh>

Research Interests:

- ▶ Nano Semiconductor Synthesis and Characterization

# NUCLEAR PHYSICS RESEARCH LAB.

NÜKLEER FİZİK ARAŞTIRMA LABORATUVARI

Responsible Person: Prof. Dr. Cenap Özben

<http://www.fizik.itu.edu.tr/ozbenc>

Research Interests:

- ▶ Radioactive Activity Measurements
- ▶ Absorption Coefficient Measurement for Alpha-ray, Beta-ray X-ray and Gamma-ray
- ▶ Natural Radioactivity Concentration Measurement
- ▶ Thorium and Uranium Concentration Measurement

# RHEOLOGICAL MEASUREMENTS & NANOCOMPOSITE MATERIAL LAB.

REOLOJİK ÖLÇÜMLER & NANOKOMPOZİT ÜRETİM VE ARAŞTIRMA LABORATUVARI

Responsible Person: Yard. Doç. Dr. Sevim İşçi Türütoğlu

<http://www.fizik.itu.edu.tr/iscis>

Research Interests:

- ▶ Viscosity Measurements
- ▶ Zeta potential Measurements
- ▶ pH and Conductivity Measurements
- ▶ UV Transmittance Measurements

# LIQUID CRYSTAL RESEARCH LAB.

SIVI KRİSTALAR ARAŞTIRMA LABORATUVARI

Responsible Person: Doç. Dr. Haluk Özbek

<http://www.fizik.itu.edu.tr/ozbekh>

Doç. Dr. Sevtap Yıldız Özbek

<http://www.fizik.itu.edu.tr/yildizs>

Research Interests:

- ▶ Thermal Conductivity Measurements
- ▶ Heat Capacity Measurements
- ▶ Birefringence Measurements

# SPECTROSCOPY LAB.

SPEKTROSKOPİ LABORATUVARI

Responsible Person: Yard. Doç. Dr. Demet Kaya

<http://www.fizik.itu.edu.tr/kayad>

Yard. Doç. Dr. Şaziye Uğur

<http://www.fizik.itu.edu.tr/ugurs>

Research Interests:

- ▶ Diffusion of Small Molecules
- ▶ Swell and Dry Out Experiments
- ▶ Sol-Gel Phase Transition
- ▶ Composite Film Formation Experiments
- ▶ Latex Film Formation Experiments

<http://www.fizik.itu.edu.tr/tr/arast/index.htm>

<http://itulabs.itu.edu.tr/LaboratuvarListesi.aspx>