

# **Prof. Sevtap Yıldız Özbek**

## **Personal Information**

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### **International Researcher IDs**

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## **Education Information**

Doctorate, İstanbul Technical University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği Anabilim Dalı, Turkey 1997 - 2004

Postgraduate, İstanbul Technical University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği Anabilim Dalı, Turkey 1992 - 1997

Undergraduate, İstanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, Turkey 1987 - 1991

## **Foreign Languages**

English

## **Research Areas**

Basic Sciences, Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Equations of State, Phase Equilibria, and Phase Transitions, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Optical Properties, Spectroscopy of Matter

## **Academic Titles / Tasks**

Associate Professor, İstanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, 2009 - Continues

Lecturer PhD, İstanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, 2005 - 2009

Research Assistant, İstanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, 1992 - 2005

## **Academic and Administrative Experience**

İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Mühendisliği, 2017 - Continues

İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, 2015 - 2017

## **Published journal articles indexed by SCI, SSCI, and AHCI**

- I. High-resolution birefringence investigation on the effect of surface-functionalized CdSe nanoparticles on the phase transitions of a smectic - A liquid crystal

- Yıldız Ş., Cetinkaya M. C., Özbek H., Tzitzios V., Nounesis G.  
JOURNAL OF MOLECULAR LIQUIDS, vol.298, 2020 (SCI-Expanded)
- II. **The influence of multi-walled carbon nanotube doping on liquid crystalline phase transitions of a smectogen octylcyanobiphenyl: A high-resolution birefringence study**  
Yıldız S., Cetinkaya M. C., Ozbek H.  
FLUID PHASE EQUILIBRIA, vol.495, pp.47-58, 2019 (SCI-Expanded)
- III. **The effect of -COOH functionalized carbon nanotube doping on electro-optical, thermo-optical and elastic properties of a highly polar smectic liquid crystal**  
Cetinkaya M. C., Yıldız S., Ozbek H.  
JOURNAL OF MOLECULAR LIQUIDS, vol.272, pp.801-814, 2018 (SCI-Expanded)
- IV. **Convincing evidence for the Halperin-Lubensky-Ma effect at the N-SmA transition in alkyloxycyanobiphenyl binary mixtures via a high-resolution birefringence study**  
Cetinkaya M. C., Ustunel S., Ozbek H., Yıldız S., Thoen J.  
EUROPEAN PHYSICAL JOURNAL E, vol.41, no.10, 2018 (SCI-Expanded)
- V. **Test of Halperin-Lubensky-Ma crossover function at the N-Sm-A transition in liquid crystal binary mixtures via high-resolution birefringence measurements**  
Yıldız S., CETINKAYA M. C., USTUNEL S., OZBEK H., THOEN J.  
PHYSICAL REVIEW E, vol.93, no.6, 2016 (SCI-Expanded)
- VI. **High resolution birefringence investigation of octylcyanobiphenyl 8CB An upper bound on the discontinuity at the smectic A to nematic phase transition**  
Cetinkaya M. C., YILDIZ ÖZBEK S., Özbe H., Losada Perez P., Leys J., Thoen J.  
Physical Review E, vol.88, no.4, pp.42502-42508, 2013 (SCI-Expanded)
- VII. **Critical behavior of a nonpolar smectogen from high-resolution birefringence measurements**  
Erkan S., Cetinkaya M. C., YILDIZ S., OZBEK H.  
PHYSICAL REVIEW E, vol.86, no.4, 2012 (SCI-Expanded)
- VIII. **THE EFFECT OF SURFACES ON THE ORIENTATIONAL PROPERTIES AND PHASE TRANSITIONS PECULIARITIES OF A NONPOLAR SMECTOGEN**  
Yıldız S., ZAYIM E. O., Pekcan O., Ozbek H.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.24, no.22, pp.4305-4323, 2010 (SCI-Expanded)
- IX. **Peculiarities of delta- and alpha-relaxations in thermotropic side chain liquid crystalline polymers with and without nematic reentrant phase**  
Salehli F., YILDIZ S., Özbe H., UYKUR E., Gürsel Y., DURMAZ Y. Y.  
POLYMER, vol.51, no.6, pp.1450-1456, 2010 (SCI-Expanded)
- X. **Peculiarities of and relaxations in Thermotropic Liquid Crystalline Polymers with and without Nematic Reentrant Phase**  
SALEHLİ F., YILDIZ ÖZBEK S., Özbe H., UYKUR E., GÜRSEL Y., Yüksel Durmaz Y.  
Polymer, vol.51, no.6, pp.1450-1456, 2010 (SCI-Expanded)
- XI. **Dielectric relaxation in a thermotropic side chain liquid crystalline polymer with nematic reentrant phase**  
Salehli F., YILDIZ S., Özbe H., Gürsel Y., DURMAZ Y. Y.  
JOURNAL OF PHYSICS-CONDENSED MATTER, vol.20, no.3, 2008 (SCI-Expanded)
- XII. **An Adiabatic Scanning Calorimetry Study of the Nematic Smectic A and Nematic Isotropic Phase Transitions in 4 butyloxyphenyl 4 decyloxybenzoate**  
Denolf K., roie B. V., glorieux c., thoen j., YILDIZ ÖZBEK S., Özbe H.  
Mol. Cryst. Liq. Cryst, vol.477, no.3, pp.497-510, 2007 (SSCI)
- XIII. **Critical Behaviour at the Isotropic Nematic and Nematic Smectic A Phase Transitions of 4 butyloxyphenyl 4 decyloxybenzoate Liquid Crystal From Refractive Index Data**  
YILDIZ ÖZBEK S., Özbe H., glorieux c., Thoen J.  
LIQUID CRYSTALS, vol.34, no.5, pp.611-620, 2007 (SCI-Expanded)
- XIV. **Change of Thermotropic Properties in Liquid Crystal with Multiple Phase Transitions Surface Aging Effect**

- Yıldız Özbek S., NESRULLAZADE A.  
*Physica A*, vol.385, no.1, pp.25-34, 2007 (SSCI)
- XV. **Synthesis and liquid crystalline behavior of random copolymer of poly(ethylene oxide) macromonomer and liquid crystalline monomer by the photon transmission technique**  
 YILDIZ S., YILMAZ F., OZBEK H., PEKCAN O., ITO K., Yagci Y.  
*JOURNAL OF MACROMOLECULAR SCIENCE-PURE AND APPLIED CHEMISTRY*, no.12, pp.1573-1588, 2005 (SCI-Expanded)
- XVI. **Scaling of Thermal Hysteresis at Nematic Smectic A Phase Transition in a Binary Mixture**  
 YILDIZ ÖZBEK S., PEKCAN M. Ö., BERKER A. N., Özbek H.  
*PHYSICAL REVIEW B*, vol.69, no.3, pp.31705-31711, 2004 (SCI-Expanded)
- XVII. **Comparative study of liquid-crystalline ordering in a monomer, linear polymer, and graft copolymer by the photon transmission technique**  
 Ozbek H., YILDIZ S., PEKCAN O., HEPUZER Y., YAGCI Y., BERKER A., GALLI G., CHIELLINI E.  
*PHASE TRANSITIONS*, vol.76, no.12, pp.991-998, 2003 (SCI-Expanded)
- XVIII. **Study of phase transitions in liquid crystalline side group polymers via photon transmission method**  
 Ozbek H., YILDIZ S., PEKCAN O., HEPUZER Y., YAGCI Y., GALLI G.  
*MATERIALS CHEMISTRY AND PHYSICS*, vol.78, no.2, pp.318-322, 2003 (SCI-Expanded)
- XIX. **Swelling and drying kinetics of polytetrahydrofuran and polytetrahydrofuran-poly (methyl methacrylate) gels: A photon transmission study**  
 Yildiz S., HEPUZER Y., YAGCI Y., PEKCAN O.  
*JOURNAL OF APPLIED POLYMER SCIENCE*, vol.87, no.4, pp.632-640, 2003 (SCI-Expanded)
- XX. **A phase diagram of smectogen-non-smectogen binary mixture: A photon transmission study**  
 Yildiz S., Serhatli I., PEKCAN O., BERKER A., OBEK H.  
*INTERNATIONAL JOURNAL OF MODERN PHYSICS B*, vol.16, no.26, pp.3959-3970, 2002 (SCI-Expanded)
- XXI. **Smectic A C A Liquid Crystal Reentrance A Photon Transmission Study**  
 Özbeck H., YILDIZ ÖZBEK S., PEKCAN M. Ö., BERKER A. N.  
*Phase Transit*, vol.75, no.3, pp.301-308, 2002 (SSCI)
- XXII. **The A C A Phase Diagram of Mixed Liquid Crystals A Photon Transmission Study**  
 Özbeck H., YILDIZ ÖZBEK S., PEKCAN M. Ö., BERKER A. N.  
*Int. J. of Mod. Phys. B*, vol.15, no.15, pp.2161-2167, 2001 (SSCI)
- XXIII. **Photon Transmission Technique for Studying Multiple Phase Transitions in a Liquid Crystal**  
 Özbeck H., YILDIZ ÖZBEK S., PEKCAN M. Ö.  
*PHYSICAL REVIEW B*, vol.59, no.6, pp.6798-6801, 1999 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Non-destructive testing of dielectric layers with defects**  
 Tasdemir C., Mudanyali O., Yıldız Özbek S., Semerci O., Yapar A.  
*Journal of Physics: Conference Series*, vol.135, 2008 (Scopus)

## Supported Projects

- Yıldız Özbek S., Project Supported by Higher Education Institutions, Sıvı Kristal kompozit malzemelerin optiksel, elektrooptiksel parametrelerinin iyileştirilmesi, 2016 - 2018
- Yıldız Özbek S., Project Supported by Higher Education Institutions, Sıvı Kristal-Nano Parçacık Karışımlarının Dielektrik ve Elektooptik Özelliklerinin İncelenmesi, 2014 - 2016
- Yıldız Özbek S., Project Supported by Higher Education Institutions, Sıvı Kristal + Nanokompozitlerin Isıl ve Elektrooptik Özelliklerinin İncelenmesi, 2011 - 2014
- Yıldız Özbek S., Project Supported by Higher Education Institutions, Sıvı Kristal ve Sıvı Karistal+Nanokompozitlerin

**Elektrooptik Özelliklerinin İncelenmesi, 2011 - 2013**

**Yıldız Özbek S., Project Supported by Higher Education Institutions, Sıvı Kristal Monomer ve Polimerlerde Termal Özellikler, 2005 - 2008**

## **Memberships / Tasks in Scientific Organizations**

**İstatistiksel Fizik Günleri, Member, 2012 - Continues**

**International Liquid Crystal Society, Member, 2009 - Continues**

**American Physical Society, Member, 2000 - Continues**

## **Metrics**

**Publication: 28**

**Citation (WoS): 82**

**Citation (Scopus): 98**

**H-Index (WoS): 5**

**H-Index (Scopus): 6**

## **Scholarships**

**Münir Birsel Vakfı, TUBITAK, 2007 - Continues**

**Koç Vakfı Bursu, Foundation, 2003 - Continues**

## **Non Academic Experience**

**İstanbul Teknik Üniversitesi**

**Katholieke Universiteit Leuven, Acoustics and Thermal Physics Section (ATF), Heverlee, Belçika**

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