

Curriculum Vitae

Muammer Yasin HACISALIHOGU

EDUCATION

Doctor of Philosophy (Ph.D.) in Physics, 07-07-2017
Karadeniz Technical University-Trabzon, TURKEY
Thesis Title: “Investigation of Effect of Elemental Substitution in Layered Iron-Based and Related Superconductors on Nanoscale Structural Disorder”

Master of Science (M.Sc.) in Physics, 19-01-2011
Karadeniz Technical University-Trabzon, TURKEY
Thesis Title: “Structural and Magnetic Properties of Te Doped FeSe “11 Type” Superconductors”

Bachelor of Science (B.Sc.) in Physics, 22-08-2008
Ege University-Izmir, TURKEY

WORK EXPERIENCE

Ress. Ass., Recep Tayyip Erdoğan University Department of Physics, Rize, TURKEY 2008 –

ADMINISTRATIVE DUTIES

Turkish Higher Education Council (YÖK) Academic Incentive Commission Member January 2017 – January 2019
of the Physics Department

Erasmus Coordinator Assistant of the Department of Physics May 2012 - March 2013

A. PUBLICATIONS

SCI Indexed Journal

- A.1 Hacisalihoglu, M. Y., Simonelli, L., Marini, C., Provino, A., Martinelli, A., Manfrinetti, P., P., Putti M. and Saini, N. L., “Mn Substitution Effect on the Local Structure of $\text{La}(\text{Fe}_{1-x}\text{Mn}_x)\text{AsO}$ Studied by Temperature Dependent x-ray Absorption Measurements”, *Journal of Physics: Condensed Matter*, 2021, **33**, 095803.

- A.2** Pugliese, G. M. , Stramaglia, F., Capone, F. G. , Hacısalihoglu, M. Y. , Kiyama, R., Sogabe, R., Goto, Y., Pollastri, S., Oliveira de Souza, D., Olivi, L., T., Mizokawa, T., Mizuguchi, Y. and Saini, N. L., “Local Structure Displacements in $\text{La}_{1-x}\text{Ce}_x\text{OBiSSe}$ as a Function of Ce Substitution”, *Journal of Physics and Chemistry of Solids*, 2020, **147**, 109648.
- A.3** Hacısalihoglu, M. Y., Paris, E., Simonelli, L., Joseph, B., Provino, A., Lamura, G., Martinelli, A., Manfrinetti, P., Aquilanti, G., Ozturk, K., Dore, P., Putti, M. and Saini, N. L., “The Local Structure and Magnetic Correlations in $\text{La}(\text{Fe}_{1-x}\text{Mn}_x)\text{AsO}$ System” , *Journal of Physics and Chemistry of Solids*, 2019, **134**, 319.
- A.4** Pugliese, G. M., Stramaglia, F., Goto, Y., Terashima, K., Simonelli, L., Fujiwara, H., Puri, A., Marini, C., Hacısalihoglu, M. Y., D’Acapito, F., Yokoya, T., Mizokawa, T., Mizuguchi, Y. and Saini, N. L., “Temperature Dependent Local Atomic Displacements in NaSn_2As_2 System”, *Journal of Physics: Condensed Matter*, 2019, **31**, 425402.
- A.5** Wakita, T., Paris, E., Kobayashi K., Terashima K., Hacısalihoglu, M. Y., Ueno, T., Bondino F., Magnano, E., Piš I., Olivi, L., Akimitsu, J., Muraoka, Y., Yokoya, T. and Saini, N. L., “Electronic Structure of $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)”, *Physical Chemistry Chemical Physics*, 2017, **19**, 26672.
- A.6** Paris, E., Mizuguchi, Y., Hacısalihoglu, M. Y., Hiroi, T., Joseph, B., Aquilanti, G., Miura O., Mizokawa, T. and Saini, N.L., “Role of the Local Structure in Superconductivity of $\text{LaO}_{0.5}\text{F}_{0.5}\text{BiS}_{2-x}\text{Se}_x$ System”, *Journal of Physics: Condensed Matter*, 2017, **29**, 145603.
- A.7** Wakita, T., Paris, E., Mizokawa, T., Hacısalihoglu, M. Y., Terashima, K., Okazaki, H., Proux, O., Isabelle, K., Lahera, E., Del Net, W., Olivi L., Takano, Y., Muraoka Y., Yokoya, T. and Saini, N. L., “Determination of the Local Structure of $\text{CsBi}_{4-x}\text{Pb}_x\text{Te}_6$ ($x = 0, 0.5$) by X-ray Absorption Spectroscopy”, *Physical Chemistry Chemical Physics*, 2016, **18**, 25136.
- A.8** Hacısalihoglu, M. Y., Paris, E., Joseph, B., Simonelli, L., Sato, T. J., Mizokawa, T. and Saini, N. L., “A Study of Temperature Dependent Local Atomic Displacements in a $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ Superconductor”, *Physical Chemistry Chemical Physics*, 2016, **18**, 9029.
- A.9** Prokes, K., Schulze, M., Hartwig, S., Schaefer, N., Landsgesell, S., Blum, C. G. F., Abou-Ras, D., Hacısalihoglu, M. Y., Ressouche, E., Ouladdiaf, B., Büchner, B. and Wurmehl, S., “Structural Inhomogeneities in $\text{FeTe}_{0.6}\text{Se}_{0.4}$: Relation to Superconductivity”, *Journal of Crystal Growth*, 2015, **432**, 95.
- A.10** Hacısalihoglu, M. Y., Paris, E., Joseph, B., Yanmaz, E. and Saini, N.L., “The Nanoscale Structure and Unoccupied Valence Electronic States in $\text{FeSe}_{1-x}\text{Te}_x$ Chalcogenides Probed by X-ray Absorption Measurements”, *Physical Chemistry Chemical Physics*, 2015, **17**, 18131.
- A.11** Hacısalihoglu, M. Y. and Yanmaz, E., “Effect of Substitution and Heat Treatment Route on Polycrystalline $\text{FeSe}_{0.5}\text{Te}_{0.5}$ Superconductors”, *Journal of Superconductivity and Novel Magnetism*, 2013, **26**, 2369.

B. PRESENTATIONS

Oral Presentations

- B.1** Wakita T., Paris E., Kobayashi K., Terashima K., Hacısalihoglu M.Y., Ueno T., ve diğ., "Determination of the Valence States and the Local Structures of $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)", *International Conference on Strongly Correlated Electron Systems 2019 (SCES2019)*, 23-28 September 2019, Okayama, JAPAN.

- B.2** Wakita T., Paris E., Kobayashi K., Terashima K., Hacisalihoğlu M.Y., Ueno T., ve diğ., "The x-dependence of local structure of $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)", *The Physical Society of Japan 2019 Autumn meeting*, 10-13 September 2019, Gifu, JAPAN.
- B.3** Wakita T., Paris E., Kobayashi K., Terashima K., Hacisalihoğlu M.Y., Ueno T., ve diğ., "EXAFS analysis of $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)", *The Physical Society of Japan 2019 Annual (74th) meeting*, 14-17 March 2019, Fukuoka, JAPAN.
- B.4** Wakita T., Paris E., Kobayashi K., Terashima K., Hacisalihoğlu M.Y., Ueno T., ve diğ., "Combined Study of XAS and XPS for $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)", *International Workshop on Trends in Advanced Spectroscopy in Materials Science (TASPEC)*, 4-6 October 2018, Hiroshima, JAPAN.
- B.5** Hacisalihoglu M. Y. , Paris E., Joseph B., Provino A., Lamura G., Cimberle R., ve diğ., "Determination of the Atomic Disorder and Magnetic Correlations in $\text{La}(\text{Fe}_{1-x}\text{Mn}_x)\text{AsO}$ System", *European Materials Research Society (E-MRS) Fall Meeting* , 17-20 September 2018, Warsaw, POLAND.
- B.6** Wakita T., Terashima K., Hacisalihoğlu M.Y., Joseph B., Yamashita A., Takano Y. , ve diğ., "Local structures and chemical states of SnSe single crystals", *The Physical Society of Japan 2018 Autumn meeting*, 9-12 September 2018, Kyoto, JAPAN.
- B.7** Hacisalihoglu M. Y. , Paris E., Joseph B., Provino A., Lamura G., Cimberle R., ve diğ., "La($\text{Fe}_{1-x}\text{Mn}_x$)AsO Sisteminde Lokal Yapı ve Magnetik Korelasyonlar", *VII. Yoğun Madde Fiziki İzmir Toplantısı*, 13 April 2018, İzmir, TURKEY.
- B.8** Wakita T., Paris E., Kobayashi K., Terashima K., Hacisalihoğlu M.Y., Ueno T., ve diğ., "The electronic structure of $\text{Ag}_{1-x}\text{Sn}_{1+x}\text{Se}_2$ ($x = 0.0, 0.1, 0.2, 0.25$ and 1.0)", *The Physical Society of Japan 2018 Annual (73rd) meeting*, 22-25 March 2018, Tokyo, JAPAN.
- B.9** Wakita T., Paris E., Mizokawa T. , Hacisalihoğlu M.Y., Terashima K., Okazaki H., ve diğ., "Combined study of XAFS and PES for novel superconductors:Local structure and electronic states of $\text{CsBi}_{4-x}\text{Pb}_x\text{Te}_6$ and $\text{CeO}_{1-x}\text{F}_x\text{BiS}_2$ ", *Physics and Chemistry of Superconductors and Thermoelectric Materials (PCST)*, 13-15 September 2017, Rome, ITALY.
- B.10** Wakita T., Paris E., Mizokawa T., Hacisalihoğlu M.Y., Terashima K., Okazaki H., ve diğ., "EXAFS and Photoemission spectroscopy of $\text{CsBi}_{4-x}\text{Pb}_x\text{Te}_6$ ", *European Materials Research Society (E-MRS) Fall Meeting*, 19-22 September 2016, Warsaw, POLAND.
- B.11** Wakita T., Paris E., Mizokawa T. , Hacisalihoğlu M.Y., Terashima K., Okazaki H., ve diğ., "Spectroscopic Studies for novel layered superconductor $\text{CsBi}_{4-x}\text{Pb}_x\text{Te}_6$ ", *The Physical Society of Japan 2016 Autumn meeting*, 13-16 September 2016, Kanazawa, JAPAN.
- B.12** Hacisalihoglu M. Y., Paris E., Joseph B., Yanmaz E. ve Saini N.L., "Nanoscale Structure and Unoccupied Valence Electronic States in $\text{FeSe}_{1-x}\text{Te}_x$ System Probed by X-ray Absorption Measurements", *101st National Congress of Italian Physical Society*, 21-25 September 2015, Rome, ITALY.
- B.13** Hacisalihoglu M. Y. ve Yanmaz E., "Structural and Magnetic Properties of Single Crystal Te doped FeSe Superconductors", *International Conference on Superconductivity and Magnetism*, 29 April - 4 May 2012, İstanbul, TURKEY.
- B.14** Hacisalihoglu M. Y. ve Yanmaz E., "Structural and Magnetic Properties of Single Crystal Te-doped FeSe Superconductors ", *5. Ulusal Süperiletkenlik Sempozyumu*, 3-6 July 2011, İzmir, TURKEY.
- B.15** Yanmaz E., Hacisalihoglu M. Y., Dancer C., Speller S. ve Grovenor C., "Structural and Magnetic Properties

of Te-doped FeSe Superconductors", **5. International Conference on Materials Science and Condensed Matter Physics and Symposium 'Electrical Methods of Materials Treatment'**, 13-17 September 2010, Kişinev, MOLDOVA.

B.16 Yanmaz E., Hacısalihoglu M. Y., Dancer C., Speller S. ve Grovenor C., "Structural and Magnetic Properties of FeSe and FeSe_{0.5}Te_{0.5} Superconductors", **International Conference on Superconductivity and Magnetism with Spring School**, 25-30 April 2010, Antalya, TURKEY.

B.17 Yanmaz E. ve Hacısalihoglu M. Y., "Structural ve Magnetic Properties of Te-doped FeSe Superconductors", **International Student Workshop on Condensed Matter and Material Physics**, 27-31 December 2009, Antalya, TURKEY.

Poster Presentations

B.18 Pugliese G. M. , Stramaglia F., Hacısalihoglu M. Y., Mizuguchi Y. , Terashima K., Yokoya T., Mizokawa, T., ve Saini, N. L., "Local structure of La_{1-x}Ce_xOBiS₂ as a function of Ce substitution", **International meeting on Study of Matter at Extreme Conditions**, 30 March-6 April 2019, Miami, USA.

B.19 Hacısalihoglu M. Y., Paris E., Joseph B., Sato T., Mizokawa T. ve Saini N. L., "Temperature Dependent Local Atomic Displacements and Disorder in Ba(Fe_{1-x}Co_x)₂As₂ Superconductor", **Nanoscale Excitations in Emergent Materials (NEEM 2015) 2nd Bilateral Indo-Italian Workshop**, 12-16 October 2015, Rome, ITALY.

B.20 Hacısalihoglu M. Y. ve Yanmaz E., "Structural Phase Analysis of FeSe_{0.5}Te_{0.5} Superconductors", **7th Asian Conference on Applied Superconductivity and Cryogenics**, 23-25 October 2013, Nevşehir, TURKEY.

B.21 Schulze M., Hacısalihoglu M. Y., Blum C. G. F., Hess C., Komar M., Wolter A., Wurmehl, S. ve Büchner B. "Systematic Investigations of the Ternary System Fe-Se-Te", **German Physical Society Dresden 2011 Negotiations**, 13-18 March 2011, Dresden, GERMANY.

C. INCENTIVE AWARDS

C.1 Incentive Award for Publication A.4, The Scientific and Technological Research Council of Turkey (TÜBİTAK) Turkey Addressed International Scientific Publications Incentive Program, 2019.

C.2 2017 Turkish Higher Education Council (YÖK) Academic Incentive Allowance, Turkish Higher Education Council, 2017.

C.3 2016 Turkish Higher Education Council (YÖK) Academic Incentive Allowance, Turkish Higher Education Council, 2016.

C.4 Incentive Award for Publication A.8, The Scientific and Technological Research Council of Turkey (TÜBİTAK) Turkey Addressed International Scientific Publications Incentive Program, 2016.

C.5 Incentive Award for Publication A.10, The Scientific and Technological Research Council of Turkey (TÜBİTAK) Turkey Addressed International Scientific Publications Incentive Program, 2015.

C.6 Incentive Award for Publication A.11, The Scientific and Technological Research Council of Turkey (TÜBİTAK) Turkey Addressed International Scientific Publications Incentive Program, 2013.

D. SCHOLARSHIPS AND SUPPORTS

International Scholarships and Supports

- | | |
|---|--------------|
| D.1 Erasmus Staff Mobility for Training, ERASMUS. (2 Days) | January 2019 |
| D.2 Erasmus Staff Mobility for Training, ERASMUS. (5 Days) | March 2014 |

National Scholarships and Supports

- | | |
|---|----------------|
| D.3 Research Scholarship, University of Rome “La Sapienza”. (2 Months) | May 2016 |
| D.4 2214-A- International Research Fellowship Programme (for PhD Students), The Scientific and Technological Research Council of Turkey (TÜBİTAK). (12 Months) | May 2015 |
| D.5 Research Scholarship, University of Rome “La Sapienza”. (3 Months) | December 2014 |
| D.6 Research Scholarship, Leibniz Institute for Solid State and Materials Research. (3 Months) | August 2010 |
| D.7 Abroad Master's Thesis Research Scholarship, Turkish Higher Education Council. (3 Months) | May 2010 |
| D.8 2224-A Support Program for Participation in Scientific Events Abroad, TÜBİTAK. (5 Days) | September 2018 |

E. RESEARCH EXPERIENCE

- | | |
|---|------------------------------|
| E.1 Visiting Scholar, Post. Doc.,
University of Rome “La Sapienza” , Rome , ITALY | July 2019 – July 2019 |
| E.2 Visiting Scholar, Post. Doc.,
University of Rome “La Sapienza”, Rome , ITALY | February 2019 – March 2019 |
| E.3 Visiting Scholar, Ph.D. Thesis Research,
University of Rome “La Sapienza”, Rome , ITALY | May 2015 - June 2016 |
| E.4 Visiting Scholar, Ph.D. Thesis Research,
University of Rome “La Sapienza”, Rome , ITALY | December 2014 - January 2015 |
| E.5 Visiting Scholar, Ph.D. Thesis Research,
University of Rome “La Sapienza”, Rome , ITALY | March 2014 - May 2014 |

F. TRAININGS

In-service Trainings

- F.1 X-Ray Analysis Techniques in Scientific Research-II (biXat-2019), 23-27 September 2019, Harran University.
- F.2 Research Project Proposal Writing Training in Natural and Applied Sciences, 28-30 August 2014, Karadeniz Technical University.
- F.3 Physics and Innovative Technologies Workshop, 13 November 2014, Recep Tayyip Erdoğan University.
- F.4 3rd International Workshop on Cleanroom Training for Critical and Sustainable Technologies-Renewable Energy, 24 June-6 July 2013, Bilkent University.
- F.5 International Spring School and Educational Courses (On Superconductivity and Magnetism), 20-25 April 2010, İnönü University.
- F.6 MATLAB Fundamentals , Figes Computer Simulation in Physics and Geometry A. S. , 21-22 January 2010, Recep Tayyip Erdoğan University.

Teaching Trainings

- F.7 Training of Teacher's Program, 08-12 April 2019, Recep Tayyip Erdoğan University.

G. PEER REVIEWS

SCI Indexed Journal

- G.1 Referee in a Journal, **Journal of Applied Physics**, SCI Indexed Journal, December 2020
- G.2 Referee in a Journal, **Superconductor Science & Technology**, SCI Indexed Journal, August 2020
- G.3 Referee in a Journal, **Journal of Applied Physics**, SCI Indexed Journal, July 2020
- G.4 Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, June 2020
- G.5 Referee in a Journal, **Journal of Applied Physics**, SCI Indexed Journal, April 2020
- G.6 Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, April 2020
- G.7 Referee in a Journal, **Superconductor Science & Technology**, SCI Indexed Journal, February 2020
- G.8 Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, December 2019
- Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, November 2019
- G.9 Referee in a Journal, **Superconductor Science & Technology**, SCI Indexed Journal, September 2019

G.10 Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, May 2019

G.11 Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, April 2019 Revision 1

Referee in a Journal, **Journal of Physics-Condensed Matter**, SCI Indexed Journal, February 2019

G.12 Referee in a Journal, **Journal of Applied Physics**, SCI Indexed Journal, March 2019

Indexed Journal

G.13 Referee in a Journal, **Journal of Physics: Materials**, Indexed Journal, August 2019

H. RESEARCH PROJECTS

Other International Scientific Research Projects

- H.1 Project Name : *Polarized x-ray absorption study on SnSe showing large thermoelectric efficiency*
Supporter : ELETTRA Synchrotron Facility, Trieste, ITALY
Project No : 20170295
Position : Researcher
Period : 04 August 2017 - 08 August 2017
- H.2 Project Name : *Local Structure of $\text{La}(\text{Fe}_{1-x}\text{Mn}_x)\text{As}(\text{O}_{1-y}\text{F}_y)$ system studied by temperature-dependent EXAFS.*
Supporter : ALBA Synchrotron Facility, Barcelona, SPAIN
Project No : 2016021677
Position : Researcher
Period : 13 July 2016 - 16 July 2016
- H.3 Project Name : *Can Bi-6s lone pair cause off-center displacements and local bondlength splitting in BiS_2 -based superconductors?*
Supporter : ESRF Synchrotron Facility, Grenoble, FRANCE
Project No : CH-4673
Position : Researcher
Period : 28 April 2016 - 03 May 2016
- H.4 Project Name : *Effect of intercalation of molecular spacer in iron-based FeSe chalcogenide superconductor*
Supporter : ELETTRA Synchrotron Facility, Trieste, ITALY
Project No : 20155195
Position : Researcher
Period : 19 April 2016 – 22 April 2016
- H.5 Project Name : *Possible role of Ir spin orbit coupling and Te-Te polymers in the phase transition of IrTe_2*
Position : Researcher
Supporter : ELETTRA Synchrotron Facility, Trieste, ITALY
Project No : 20155509
Position : Researcher
Period : 08 February 2016 - 11 February 2016
- H.6 Project Name : *Effect of pressure on the local structure of $\text{Ca}_{10}\text{M}_4\text{As}_8(\text{Fe}_2\text{As}_2)_5$ superconductor with strong interlayer interaction*

Position : **Researcher**
 Supporter : **ESRF Synchrotron Facility, Grenoble, FRANCE**
 Position : **Researcher**
 Project No : **HC-2259**
 Period : **04 November 2015 - 09 November 2015**

H.7 Project Name : *Effect of Se substitution on the local structure of $\text{LaO}_{1-x}\text{F}_x\text{BiS}_{2-y}\text{Se}_y$ superconductor*
 Position : **Researcher**
 Supporter : **ELETTRA Synchrotron Facility, Trieste, ITALY**
 Project No : **20150510**
 Period : **02 September 2015 - 06 September 2015**

H.8 Project Name : *Correlation between Jahn-Teller distortions and functional properties of recently developed $\text{Na}_{2/3}\text{Mn}_y\text{Co}_{1-y}\text{O}_2$ battery materials*
 Position : **Researcher**
 Supporter : **ELETTRA Synchrotron Facility, Trieste, ITALY**
 Project No : **20135446**
 Period : **20 March 2014 - 23 March 2014**

H.9 Project Name : *Interplay of local atomic displacements and electronic properties of new superconductor $\text{LnO}_{1-x}\text{F}_x\text{BiS}_2$ (La, Ce)*
 Position : **Researcher**
 Supporter : **ELETTRA Synchrotron Facility, Trieste, ITALY**
 Project No : **20135317**
 Period : **17 March 2014 - 20 March 2014**

H.10 Project Name : *Connection between the nematic fluctuations and local structure in iron pnictide superconductors*
 Position : **Researcher**
 Supporter : **ESRF Synchrotron Facility, Grenoble, FRANCE**
 Project No : **HC-1021**
 Period : **29 January 2014 – 04 February 2014**

Other National Scientific Research Projects

H.11 Project Name : *Fabrication and Characterization of MgB_2 thin films which carries ferromagnetic artificial pinning centers.*
 Position : **Researcher**
 Supporter : **Karadeniz Technical University Scientific Research Projects Unit, Trabzon, TURKEY**
 Project No : **2010.111.01.2 (1076)**
 Period : **01 March 2011 - 01 July 2013**

I. ORGANISATIONS

I.1 Organizing Committee Membership, 4th National Superconductors Symposium, August 2009, Trabzon, TURKEY.

J. TEACHING DUTIES

J.1 Temel Bilgi Teknolojileri I, Bachelor,

J.2 General Physics I, Bachelor, Teaching Assistant.

J.3 General Physics II, Bachelor, Teaching Assistant.

- J.4** Engineering Physics I, Bachelor, Teaching Assistant.
- J.5** Engineering Physics II, Bachelor, Teaching Assistant.
- J.6** Elektromagnetic Theory, Bachelor, Teaching Assistant.
- J.7** Solid State Physics II, Bachelor, Teaching Assistant.
- J.8** General Physics Laboratory I, Bachelor, Laboratory Assistant.
- J.9** General Physics Laboratory II, Bachelor, Laboratory Assistant.
- J.10** Mechanics Laboratory, Bachelor, Laboratory Assistant.
- J.11** Electricity and Magnetism Laboratory, Bachelor, Laboratory Assistant.
- J.12** Optics Laboratory, Bachelor, Laboratory Assistant.
- J.13** Modern Physics Laboratory, Bachelor, Laboratory Assistant.
- J.14** Solid State Physics Laboratory, Bachelor, Laboratory Assistant.

REFERENCES

Prof. Dr. Ekrem YANMAZ	E-Mail: yanmaz61@gmail.com	Cell: +90 534 293 43 20
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Prof. Dr. Kemal OZTURK	E-Mail: kozturk@ktu.edu.tr	Cell: +90 536 513 06 48