



CV



University of Kashan

Somayeh Harooni Arani

Assistant Professor

Department of nuclear physics, Faculty of physics, University of Kashan, Kashan, Iran

P.O.Box: 87317-53153

Tel: +98-3155913062

Email: harooni@kashanu.ac.ir

Web: <https://faculty.kashanu.ac.ir/harooni>

Degree	Academic orientation	University	Thesis title	Beginning	End
B.Sc	Physics	Kashan	---	2000/9/22	2004/9/5
M.Sc	Nuclear physics	Kashan	Two new thermoluminescence mixed order models with single activation energy and a uniform distribution of trapping centers Supervisor: Dr. Mostafa Zahedifar	2005/9/23	2008/1/30
Ph.D	Nuclear physics	Kashan	Improvements of the models describing thermoluminescence phenomena and comparison with the experimental result Supervisor: Dr. Mostafa Zahedifar	2009/9/23	2013/12/18

Row	Articles in the publications
1	Zahedifar, M., Rezaeian, P. and Harooni, S. , Thermoluminescence kinetic analysis of basaltic rocks using a generalized model for exponential distribution of activation energies, <i>Nucl. Inst. And Meth. B</i> , 264, (2007), 378-382. (ISI)
2	Zahedifar, M., and Harooni, S. , A new thermoluminescence mixed order model for continuous and uniform distribution of trapping centers, <i>Iran. J. Phys. Res.</i> , 11 (1), (2011), 39-46.
3	Zahedifar, M., Mehrabi, M. and Harooni, S. , Synthesis of CaSO ₄ : Mn nanosheets with high thermoluminescence sensitivity, <i>Appl. Radiat. Isotopes.</i> , 69, (2011), 1002-1006. (ISI)

4	Zahedifar, M., Harooni, S. and Sadeghi, E., Thermoluminescence kinetic analysis of quartz using an improved general order model for exponential distribution of activation energies, <i>Nucl. Inst. And Meth. A</i> , 654, (2011), 569-574. (ISI)
5	Zahedifar, M., Mehrabi, M., Modarres, M. and Harooni, S. , Thermoluminescence properties of BeO:Mg nanoparticles produced by sol-gel method, <i>JNS</i> , 1, (2012), 199-203. (ISC)
6	Zahedifar, M., Sadeghi, E. and Harooni, S. , Thermoluminescence characteristics of the novel CaF ₂ :Dy nanoparticles prepared by using the hydrothermal method, <i>Nucl. Inst. And Meth. B</i> , 291, (2012), 65-72. (ISI)
7	Zahedifar, M. and Harooni, S. , A new interactive thermoluminescence mixed-order glow curve deconvolution function, <i>Radiat. Eff. Def. Solids.</i> , 168, (2013), 1011-1021. (ISI)
8	Zahedifar, M. and Harooni, S. , An improved mixed order model for describing thermoluminescence glow curves, <i>IJST</i> , 39A2, (2015), 205-212. (ISI)
9	Zahedifar, M., Sadeghi, E., Kashefi biroon , M., Harooni, S. and Almasifard, F., Thermoluminescence dosimetry features of Dy and Cu doped SrF ₂ nanoparticles under gamma irradiation, <i>Appl. Radiat. Isot.</i> , 105, (2015), 176-181. (ISI)
10	Mehrabi, M., Zahedifar, M., Saeidi-Sogh, Z., Ramazani-Moghaddam-Arani, A., Sadeghi, E. and Harooni, S. , Thermoluminescence and photoluminescence properties of NaCl:Mn, NaCl:Cu nanoparticles produced using co-precipitation and sono-chemistry methods, <i>Nucl. Inst. And Meth. A</i> , 846, (2017), 87-93. (ISI)
11	Zahedifar, M., Almasifard, F., Sadeghi, E., Harooni, S. and Kashefi biroon , M., Thermoluminescence dosimetry properties and kinetic analysis of MgSO ₄ :Dy microcrystalline prepared by solid state method, <i>Radiat. Meas.</i> , 103, (2017), 26-32. (ISI)
12	Harooni, S. , Zahedifar, M., and Ahmadian Z., Determination of thermal quenching parameters of TLD-100 dosimeter, <i>Iran. J. Radiat. safety and Meas.</i> , 5 (1), (2017), 29-34.
13	Almasifard, F., Sadeghi, E., Zahedifar, M., and Harooni, S. , Synthesis of MgSO ₄ nanoparticle doped with Cu by hydrothermal method and investigation of its thermoluminescence properties in gamma irradiation, <i>Iran. J. Radiat. safety and Meas.</i> , 5 (2), (2017), 7-12.
14	Harooni, S. , Zahedifar, M., Sadeghi, E., and Ahmadian, Z., A new thermoluminescence general order glow curve fit function considering thermal quenching effect, <i>Radiat. Prot. Dosim.</i> , (2019)
15	Harooni, S. , Zahedifar, M., Ramazani-Moghaddam-Arani, A., Sadeghi, E., and Mehrabi, M., The study on the kinetic parameters of deep traps of α -Al ₂ O ₃ :C (TLD-500) dosimeter by comparing experimental photo-transferred thermoluminescence response with the theoretical model, <i>J. Nucl. Sci. Technol.</i> , 87 (1), (2019), 10-15.
16	Akbari, S., Harooni, S. and Zahedifar, M., Recovery of thermoluminescence sensitivity in CaF ₂ :Mn (TLD-400) dosimeter under heating process, <i>Iran. J. Radiat. safety and Meas.</i> , 7 (3), (2019), 9-12.
17	Taheri-Hasanabad, S., Harooni, S. , Zahedifar, M. and Hajiloo, N., Determination of thermal quenching parameters in CaF ₂ : Mn(TLD-400) thermoluminescent dosimeter, <i>J. Nucl. Sci. Technol.</i> , 93 (3), (2020), 130-134.

18	Harooni, S. , Zahedifar, M., Kermani, S. and Sadeghi, E., A new thermoluminescence mixed order model considering thermal quenching effect, <i>Iran. J. Phys. Res.</i> , 21 (1), (2021), 197-204.
19	Talebi, M., Sadeghi, E., Zahedifar, M. and Harooni, S. , Synthesis, structural characteristics and thermoluminescence features of KCl: Mn and KCl: Ce phosphors, <i>Nucl. Inst. And Meth. B</i> , 530, (2022), 29-38.
20	Harooni, S. and Akbari, S., Investigation of sensitivity loss and recovery method of CaF ₂ :Mn (TLD-400) thermoluminescent dosimeter irradiated to high gamma dose, <i>Iran. J. Radiat. safety and Meas.</i> , 11 (3), (2022), 141-148.
21	Harooni, S. and Taheri-Hasanabad, New first order model of thermoluminescence as a function of peak temperature and intensity considering thermal quenching effect, <i>J. Nucl. Sci. Technol.</i> , 44 (2), (2023), 40-46.
22	Bagheri, M., Sadeghi, E., Zahedifar, M. and Harooni, S. , Thermoluminescence properties of Cu doped α -Al ₂ O ₃ crystals synthesized by a solid state method, <i>Radiat. Phys. Chem.</i> , 209, (2023), 110971.
23	Fathi-Baghbahadorani, R. and Harooni, S. , The effect of thermal quenching on the kinetic parameters of CaF ₂ :Mn (TLD-400) dosimeter thermoluminescence glow curve, <i>Iran. J. Radiat. safety and Meas.</i> , 13 (1), (2024), 27-34.
24	Akbari, S., Harooni, S. and Gholami-Hatam, E., Reconstruction of the surface topography of an ancient Roman coin using a characteristic X-ray four-segment Silicon drift detectors, <i>Iran. J. Radiat. safety and Meas.</i> , 14 (1), (2025), 10-18.
25	Adibi, R., Zahedifar, M., Sadeghi, E. and Harooni, S. , Nickel doped magnesium oxide nanoparticles: synthesis, characterization and thermoluminescence dosimetry features in gamma irradiation, <i>Nucl. Inst. And Meth. B</i> , 566, (2025), 165782.

Row	Articles in the conferences
1	Harooni Arani, S. , Zahedifar, M., and Aghiri, M., Comparison of two main parameters in two widely used thermoluminescence models, <i>Annual physics conference of Iran</i> , (2011), 1198-1201.
2	Mollabashi, L., Zahedifar, M., and Harooni Arani, S. , Preparation and investigation of thermoluminescence and dosimetric properties of CaSO ₄ : (Dy, Tm), <i>Annual physics conference of Iran</i> , (2011), 993-996.
3	Harooni Arani, S. , and Zahedifar, M., A new thermoluminescence mixed order model assuming allowed retrapping of charge carriers in deep trap, <i>Annual physics conference of Iran</i> , (2012), 380-383.
4	Harooni Arani, S. , Zahedifar, M., and Almasifard, F., A model for phototransferred thermoluminescence and its application for estimating the kinetic parameters of real systems, <i>Annual physics conference of Iran</i> , (2013), 233-236.
5	Harooni Arani, S. , and Zahedifar, M., Thermoluminescence glow curves analysis of quartz using mixed order model for exponential distribution of activation energies, <i>Annual physics conference of Iran</i> , (2014), 28-31.

6	Sadeghi, E., Zahedifar, M., Almasifar, F., Harooni Arani, S. , and Mehrabi, M., Thermoluminescence features of $\text{MgSO}_4\text{:Mn}$ nanoparticles in gamma irradiation, <i>Annual physics conference of Iran</i> , (2014), 1766-1769.
7	Almasifar, F., Zahedifar, M., Sadeghi, E., Harooni Arani, S. , and Kashefi Biroon, M., Using of $\text{MgSO}_4\text{:Dy}$ nanoparticles synthesized by hydrothermal method in thermoluminescence dosimetry for the first time, <i>Annual physics conference of Iran</i> , (2015), 330-333.
8	Zahedifar, M., Sadeghi, E., Sadeghi, B., and Harooni Arani, S. , Determination of thermoluminescence kinetic parameter of TLD-100 (LiF:Mg;Ti) for absorbed doses of 1 and 5Gy using variable heating rate, isothermal decay and initial rise methods, <i>Annual physics conference of Iran</i> , (2016), 2442-2445.
9	Sadeghi, B., Sadeghi, E., Zahedifar, M., and Harooni Arani, S. , Determination and comparison of kinetic parameters of LiF:Mg;Ti (TLD-100) dosimeter in gamma and alpha, <i>Iranian nuclear conference</i> , (2018), P:1084.
10	Narimani, E., Zahedifar, M., Sadeghi, E., Naderi, M., and Harooni, S. , Determination of kinetic parameters of LiF:Mg;Ti (TLD-100) thermoluminescent dosimeter With X-ray energies, <i>Iranian nuclear conference</i> , (2023), P:1075.
11	Bagheri, M., Sadeghi, E., Zahedifar, M., Harooni, S. , and Sharifi, M., Fabrication of tin dioxide nanoparticles with Europium impurity and investigation of its dosimetric properties, <i>Iranian nuclear conference</i> , (2023), P:1027.
12	Bagheri, M., Sadeghi, E., Zahedifar, M., Harooni, S. and Naderi, M., Application of alumina nanoparticles in thermoluminescence dosimetry, <i>International Conference on Modern Technologies in Sciences (Amol)</i> , (2023), 53-57.
13	Akbari, S., Gholami- Hatam, E., Smit, Z., Harooni Arani, S. , Pelicon, P., Kelemen, M., Punzon-Quijorna, E. and Vavpetic, P., Characterization of elemental composition in a 4th century AD ancient coin using micro-pixe analysis with four-channel SDDs, <i>19th International Conference on nuclear microprobe technology and applications (Madrid)</i> , (2024), 33-34.
14	Akbari, S., Gholami Hatam, E., and Harooni Arani, S. , Determining the elemental composition of an ancient coin from the 4 th century AD using the micro-PIXE method, <i>Annual physics conference of Iran</i> , (2024), P:67.
15	Sharifi, Z., Harooni, S. , Sadeghi, E. and Zahedifar, M., Synthesis of $\text{BaF}_2\text{:Ag}$ nanoparticles and Its thermoluminescence analysis, <i>The 7th conference on measurement and safety of ionizing and non-ionizing radiation</i> , (2025).
16	Hayatgheiby Boldaji, M., Sadeghi, E., Zahedifar, M. and Harooni, S. , Fabrication of lithium borate nanoparticles with barium impurity and investigation of thermoluminescence dosimetric properties in gamma ray irradiation, <i>The 7th conference on measurement and safety of ionizing and non-ionizing radiation</i> , (2025).
17	Sharifi, Z., Harooni, S. , Sadeghi, E. and Zahedifar, M., The synthesis, structure, and study of the optical properties of barium fluoride, <i>Iranian nuclear conference</i> , (2025), P:1137.
18	Hayatgheiby Boldaji, M., Sadeghi, E., Zahedifar, M. and Harooni, S. , Investigating photoluminescence and thermoluminescence properties of LiB_3O_5 , <i>Iranian nuclear conference</i> , (2025), P:1138.
19	Pourassad, L., Zahedifar, M., Hajilo, N., Sadeghi, E. and Harooni, S. , Using isothermal decay method in determining kinetic parameters of dosimeter thermoluminescence of LiF:Mg;Ti (TLD-100) under gamma irradiation in dose 3 Gray, <i>Iranian nuclear conference</i> , (2025), P:1314.

(2026 January 22)