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Date of Birth: September 16, 1987

Education:

2014--2017: Ph. D. in Solar Physics and Astrophysics, University of Zanjan, Zanjan, Iran (Qualifying exam: 19.47)
Ph.D. Thesis: Statistical Relationships between Solar Magnetic Features and Solar Activity.
Supervisors: Dr. Hossein Safari
Advisors: Professor Markus J. Aschwanden & Dr. Neda Dadashi
2010-- 2013: MSc in physics, University of Zanjan, Zanjan, Iran (Defend grade: 19.50).
Msc Thesis: Automatic Methods for Identification of Solar Features.
Supervisors: Dr. Hossein Safari & Dr. Ali Amiri
2006-- 2010: B. Sc. in Physics (Hard Condensed Matter), Department of Physics, University of Zanjan, Zanjan, Iran.

Membership:

Astronomical Society of Iran

Computer skills:

Operating Systems: Linux (Ubuntu, Opensuse), Windows 2000, XP, Vista, Windows 7, Windows 8.
Programming Languages: MATLAB, Interactive Data Language (IDL/SSW), COMSOL (Linux, Windows).

Research Interests:
The Sun (Photosphere, Chromosphere, Transition region, and Corona), Image Processing, Data Mining, Complex Systems, Statistical Models of Solar Flares (Self-organized Critically Systems), Time Series Analysis (Simulation and Prediction).

Publications:

Publications in International Refereed Journals and Referred Proceedings:

1. Automatic Method for Identification of Photospheric Bright Points and Granules Observed by Sunrise, 2014, *Solar Physics*, 289, 3969-3983, DOI: 10.1007/s11207-014-0555-1.
Link: https://link.springer.com/article/10.1007/s11207-014-0555-1
Arxiv Link: http://arxiv.org/abs/1407.2447

2. A hybrid algorithm for feature subset selection in high-dimensional datasets using FICA and IWSSr algorithm, 2015, *Applied Soft Computing*, 35, 123-135, DOI: 10.1016/j.asoc.2015.03.049.
Link:
https://www.sciencedirect.com/science/article/pii/S1568494615002070?via%3Dihub

3. Extraction of Active Regions and Coronal Holes from EUV Images Using the Unsupervised Segmentation Method in the Bayesian Framework, 2016, *Solar Physics*, 291, 1209-1224, DOI: 10.1007/s11207-016-0883-4.
Link: http://dx.doi.org/10.1007/s11207-016-0883-4
Arxie Link: http://arxiv.org/abs/1604.04988

4. Statistical Properties of Photospheric Magnetic Elements Observed by the *Helioseismic and Magnetic Imager* onboard the *Solar Dynamics Observatory* , 2017, *Solar Physics*, 292, 164, DOI: 10.1007/s11207-017-1189-x.
Link: http://dx.doi.org/10.1007/s11207-017-1189-x
Arxie Link: https://arxiv.org/abs/1707.09291

5. The Solar Flare Complex Networks, 2017, *Astrophysical J.*, 847, 115
Link: https://doi.org/10.3847/1538-4357/aa8951
Arxie Link: https://arxiv.org/abs/1709.01677

6. Statistics of Photospheric Supergranular Cells Observed by SDO/HMI**,** 2019**,** *Advances in Space Research*, 64, 504-513
Link: https://doi.org/10.1016/j.asr.2019.04.027

Publications in National Refereed Journals (ISC) and Referred Proceedings:

1. Segmentation of Photospheric Solar Images by Using c-Means, k-Means, and FCM Algorithms, Summer 2015, Iranian Journal of Astronomy and Astrophysics, DOI: 10.13140/RG.2.1.4005.2321.
http://ijaa.du.ac.ir/article_18_5.html,
https://www.researchgate.net/publication/280093035_Segmentation_of_Photospheric_Solar_Images_by_Using_c-Means_k-Means_and_FCM_Algorithms

2. A Computer Modeling of Mie-Scattering by Spherical Droplets within the Atmosphere, Iranian Journal of Astronomy and Astrophysics, Fall 2016, Vol. 3, NO. 1, pp. 57-64.
http://ijaa.du.ac.ir/article_51_10.html

3. Tracking Objects in Video Frames with Moving Camera, International Academic Journal of Science and Engineering, Spring 2017, Vol. 4, NO. 2, pp. 44-53.
http://iaiest.com/dl/journals/7-%20IAJ%20of%20Science%20and%20Engineering/v4-i2-apr-jun2017/paper6.pdf

4. Survey of Noise Pollution in Zanjan, and Comparing them with Standards**,** *International Journal of Scientific & Engineering Research***,** 2018, 9, 12
Link: https://www.ijser.org/onlineResearchPaperViewer.aspx?Survey-of-Noise-Pollution-in-Zanjan-and-Comparing-them-with-Standards.pdf

Thesis Advisor for MSc Students:

1. Najme Ahmadi, February 2015, *An Automatic Method for Detection of Coronal Width from Extreme Ultra-Violet (EUV) Radiation on a Solar Cycle*.
2. Fatemeh Esmaeili, February 2015, *The Force-Free Magnetic Field Structure of Solar Corona*.
3. Samira Lali, October 2014, *A Method to Identification and Tracking of Active Regions, Quiet Sun and Coronal Holes from Extreme Ultraviolet Images*.
4. Leila Jahandideh, October 2014, *Evolution of Active Regions, Quiet Sun, and Coronal Holes on Extreme Ultraviolet Images*.
5. Leila Khosravian, October 2014, *Magneto-hydrodynamic waves of multi-strands loops from Extreme-ultraviolet images*.
6. Ebrahim Tohidi-Moghaddam, February 2016, *Statistical Studies of Flares, Coronal Mass Ejections, Jets, and Solar Active Regions*.
7. Bardia Kaki, February 2017, *Investigation of Relationships between Parameters of Solar Nano-Flares and Solar Activity*.
8. Majedeh Noori, September 2017, *Applying Image Processing Techniques in Fractal Dimension of Solar Supergranular Cells*.

9. Tayebe Farjadnia, January 2018, *Network and Inter-network Physical Structures of the Quiet Sun*.
10. Javad Ganjali, January 2019, *Oscillations and Weak Damping of the Solar Coronal Loops*.
11. Mahmood Hassani, February 2019, *Relationship between Visibility and Concentration of Particulate Matter (PM) – Case of Study: Zanjan*.

Thesis Advisor for Ph.D. Students:

1. Akbar Gheibi Fetrat, September 2017, 1-Non-Gravitational Black Holes and Hawking Radiation, and 2-the Solar Flare Network.

Thesis Supervisor for MSc Students:

1. Zahra Tajik, January 2018, Extracting Parameters of Coronal Holes in EUV Images during Half-Period of Solar Cycle.
2. Mahsa Mehrabian, August 2018, Investigation of Bright ponit Time series in Several Channels During Large Scale Events.

Organization Committee of Conferences and Workshops:

1. 13th Iranian Conference on Physics Training and 3rd Iranian Conference on Physics and Laboratory, University of Zanjan, August 2012, Zanjan,Iran.
2. 8th Iranian Conference on Machine Vision and Image Processing, University of Zanjan, September 2013, Zanjan, Iran.
3. 7th Iranian Conference on Statistical Mechanics, Soft Condensed Matter and Complex Systems, University of Zanjan, December 2014, Zanjan, Iran.
4. Chairman in Advanced Astrophysics Workshop, February 2019, Research Institute for Astronomy and Astrophysics of Maragha (RIAAM), Maragha, Iran.

Conferences:

1. Automatic Identification of Solar Granules and Magnetic Bright Points, 28*th* General Assembly of IAU, Beijing, China, abstract book, p.641, 20-31 Aug 2012.
2. Investigation of relationships between parameters of solar nano-flares and solar activity, 41st COSPAR Scientific Assembly, Abstracts from the meeting that was to be held 30 July – 7 August at the Istanbul Congress Center (ICC), Turkey. Bibliographic: 2016cosp...41E1675S.
3. The New Segmentation Method for Statistical Study of Solar Coronal Bright Points, French-Iranian Workshop on the Mercury Transit of 2016, Yazd University, Mehriz, Iran, 8-9 May 2016.
4. Automatic Identification of Solar Magnetic Bright Points, 5*th* National Meeting in Astronomy and Astrophysics, Damghan University, Semnan, Iran, Dec 29-30, 2011.
5. An Automatic Method for Detection of Coronal Width on a Solar Cycle, 7*th* National Meeting in Astronomy and Astrophysics, Shahid Bahonar University of Kerman, Kerman, Iran, Jan 24-25, 2013.

6. Investigating Oscillations of Coronal Multi-Strands Loops Using Image Processing Methods, 7th National Meeting in Astronomy and Astrophysics, Shahid Bahonar University of Kerman, Kerman, Iran, Jan 24-25, 2013.
7. Identifying and Tracking Solar Active Regions in Ultraviolet Images, 7th National Meeting in Astronomy and Astrophysics, Shahid Bahonar University of Kerman, Kerman, Iran, Jan 24-25, 2013.
8. Observing Asymmetric Structure of Venus Atmosphere during Transition Using Image Processing Methods, 7th National Meeting in Astronomy and Astrophysics, Shahid Bahonar University of Kerman, Kerman, Iran, Jan 24-25, 2013.
9. Detection of Supergranules Junctions from Magnetogram Images, 7th National Meeting in Astronomy and Astrophysics, Shahid Bahonar University of Kerman, Kerman, Iran, Jan 24-25, 2013.
10. Participating in the First TEDx Event Themed, Amirkabir University of Technology, Tehran, Iran, Feb. 14, 2013.
11. Reconstruction of Magnetic Field of a Solar Flare, 8th National Astronomy Meeting in Astronomy and Astrophysics, Amirkabir University of Technology, Tehran, Iran, Feb 4-5, 2015.
12. Investigation of Relationships between Parameters of Solar Nano-Flares and Solar Activity, 9th National Astronomy Meeting in Astronomy and Astrophysics, University of Sistan and Bluchestan, Zahedan, Iran, Feb 2-4, 2016.
13. Statistical Studies of Flares, Jets, and Their Correlations in the 11-Year Period, 9th National Astronomy Meeting in Astronomy and Astrophysics, University of Sistan and Bluchestan, Zahedan, Iran, Feb 2-4, 2016.
14. Survey of Noise Pollution in Zanjan, and Comparing with Standards, 8th National Congress and Specialized Exhibition of Environmental Engineering, University of Tehran, Tehran, Iran, Nov. 5-9, 2016.
15. Chromospheric Network and Internetwork Comparison in C II 1335 Å Line, 20th Meeting on Research in Astronomy, IASBS, May 11-12, 2017.
16. Investigation of Relationships between Parameters of Solar Nano-Flares and Solar Activity, 20th Meeting on Research in Astronomy, IASBS, Zanjan, Iran, May 11-12, 2017.
17. Physical Laws Extracted from Statistical Analyses of Solar Magnetic Elements, International Conference on Time series and Forecasting**,** Sep. 19-21**,** 2018, Granada (Spain).
18. Extraction of Coronal Holes from EUV Images during the Year 2014 in the Bayesian Framework, National Conference of Climate, IASBS, Zanjan, Iran, Mar. 8-9 , 2018.
19. Damping and oscillations of Coronal Loops, 12th National Astronomy Meeting in Astronomy and Astrophysics, University of Sistan and Bluchestan, Zahedan, Iran, Jan 30-31, 2019.
20. Damping and Oscillations of Coronal Loops, 12th National Astronomy Meeting in Astronomy and Astrophysics, University of Sistan and Bluchestan, Zahedan, Iran, Jan 30-31, 2019.

21. Statistics of Magnetic Features inNon-flaring Solar Active Regions, 12th National Astronomy Meeting in Astronomy and Astrophysics, University of Sistan and Bluchestan, Zahedan, Iran, Jan 30-31, 2019.
22. Studying Time Series of Sunspots and Coronal Holes by Multiscale Entropy Analysis, 22th Meeting on Research in Astronomy, IASBS, Zanjan, Iran, Apr 30 - May 1.
23. Studying Periodic Radio Emissions of Pulsars Using Multiscale Entropy Analysis, 22th Meeting on Research in Astronomy, IASBS, Zanjan, Iran, Apr 30 - May 1.

Schools:
School on Eclipse Phenomena & Nearest Mars Transition: Keys of Astrophysics Mysteries, Franco – Iranian School, Research Institute for Applied Physics & Astronomy (RIAPA), University of Tabriz, Tabriz, Iran, 27-28 July 2018.

Journal and Conference Referee:
- Physics & Astronomy International Journal (PAIJ)
- Conference on Astronomy and Astrophysics for high-school students, Hamadan, Iran, May 2018.

Patents:
1- Stretcher for Transporting Severely (Spinal cord) Injured, Declaration date: April 2011, No. 390020231.
2- Three-Stage Light to Electric Converter, Declaration date: February 2016, No. 139450140003013987.

References:

Professor Markus J. Aschwanden
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Professor Hossein Safari
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Dr. Ali Amiri (Associate Professor)
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Dr. Neda Dadashi (Assistant Professor)
Department of Physics, Faculty of Sciences, University of Zanjan, University Blvd., 45371-38791, Zanjan, I. R. Iran.
E-mail: dadashi@znu.ac.ir, nedadadashi@gmail.com
Phone: (98) 911-314-5450.

Activities:
Playing Badminton (Player, Coach, and Referee), Swimming, Calligraphy, Programming.

Hobbies:
Invention and Devising, Teaching (English, Physics, Math in high-school and University, Astronomy and Astrophysics), Translation (Physics Books)

Awards:

1. Bronze Medal, Stretcher for Transporting Severely Injured, 22nd International Invention, Innovation, and Technology Exhibition (ITEX), 20th – 22th May 2011, Kuala Lumpur, Malaysia.
   (http://www.znu.ac.ir/modules.php?name=News&file=article&t=stories90&sid=3327)
2. Gold Medal (Teamwork), Stretcher for Transporting Severely Injured, 22nd International Invention, Innovation, and Technology Exhibition (ITEX), 20th – 22th May 2011, Kuala Lumpur, Malaysia.
   (http://www.znu.ac.ir/modules.php?name=News&file=article&t=stories90&sid=331)
3. Gold Medal (Teamwork), the National Competition of Badminton, 20th – 24th May 2014, University of Mohaghegh Ardabili, Ardabil, Iran.
   (http://www.uma.ac.ir/find.php?item=15.183.3054.fa

   http://www.znu.ac.ir/modules.php?name=News&file=article&t=stories&sid=10133**)**

4. Bronze Medal (Teamwork), the National Competition of Badminton, 16th – 18th December 2015, Sahand University, Tabriz, Iran.
   (http://news.znu.ac.ir/pg/view/id/13063/t)