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تحصیلات

- 1) پسا دکتري، 1393، فيزيک، دانشگاه مریلند، کالج پارک، آمریکا
- 2) دکتري، 1391، مهندسی برق-مخابرات، ویرجینیا تک، آمریکا
- 3) کارشناسی ارشد، 1386، مهندسی برق-مخابرات، دانشگاه تربیت مدرس
- 4) کارشناسی، 1384، مهندسی برق-الکترونیک، دانشگاه صنعتی امیرکبیر

جوایز و افتخارات(در زمینه‌های مختلف مانند: طرح، مقاله، ...)

- 1) Dr. Kazemi Ashtiani Award, Iran's National Ellite Foundation, national, Other, 2019/05/11
- 2) Young Scientist Award, 2018 URSI AT-RASC (Atlantic Radio Science Conference), May 27-June 2, 2018, Gran Canaria, Spain, international, Other, 2018/05/27
- 3) 2018 Faculty Fellowship Program, National Center for Atmospheric Research (NCAR), Boulder, CO, USA, national, Other, 2018/01/10
- 4) 2013 NASA Jack Eddy Postdoctoral Fellowship Awards, Honorable Mention, international, Other, 2013/03/25
- 5) Electrical and Computer Engineering Department Nominee for Virginia Tech Graduate school's best PhD dissertation award, 2012., national, Other, 2012/12/25
- 6) Second place winner in the student poster competition, 2012 National Science Foundation (NSF) CEDAR Conference, Santa Fe, NM, national, Other, 2012/06/20
- 7) 2012 Blackwell Award for best ECE PhD student research publication, Bradley ECE department, Virginia Tech, 2012, national, Other, 2012/04/30
- 8) First Poster Presentation Award, Graduate Student Association (GSA) Annual Research Symposium, Virginia Tech, 2012, national, Other, 2012/03/25

فعالیت‌های اجرایی

- 1) راه اندازی و مسئول آزمایشگاه پلاسما فضای، 1398/07/22، 1400/07/22، ایران، تهران
- 2) همکاری در برگزاری مصاحبه آزمون دکتري، 1398/03/21، 1398/03/22، ایران، تهران
- 3) عضو کارگروه خشکسالی و تغییر اقلیم ستاد توسعه فناوری های آب، خشکسالی، فرسایش و محیط زیست، 1397/09/14، 1399/09/14، ایران، تهران

عضویت در مجامع ملی و بین المللی

- 1) انجمن بین المللی علوم رادیویی، عضو، بین المللی، 1397/06/13
- 2) انجمن ژئوفیزیک آمریکا، عضو، بین المللی، 1389/08/01
- 3) انجمن ژئوفیزیک ایران، عضو، ملی، 1395/02/01
- 4) بنیاد ملی نخبگان، عضو، 1395/07/01

همایش‌های بین المللی

- 1) Augustine Yellu, Wayne Scales, Eliana Nossa, Alireza Mahmoudian, Carl L Sieftring, P. A. Bernhardt, and Michael Joseph McCarrick. "Observations of Second Harmonic Generation in Stimulated Electromagnetic Emissions during Ionospheric Heating." 2019 American Geophysical Union,.
- 2) Wayne Scales, Augustine Yellu, Alireza Mahmoudian, Paul A Bernhardt, Carl L Sieftring, Eliana Nossa, Stanley J Briczinski, and Michael Joseph McCarrick. "Recent Advances in Stimulated Electromagnetic Emission Investigations (Invited)." 2019 American Geophysical Union,.
- 3) Maryam Gharaylou, Majid Mazraeh Ee Farahani, Morteza Hosseini, and Alireza Mahmoudian. "Prediction of Lightning Using WRF-ELEC Model over Tehran area: Impact of Initial and Boundary Condition." 27th IUGG General Assembly, Montreal.
- 4) Alireza Mahmoudian, Ali Reza Mohebalhojeh, Majid Mazraeh Ee Farahani, Wayne A Scales, and Mike Kosch. "Remote sensing of mesospheric dust layers using active modulation of PMWE by high-power radio-waves." American Geophysical Union,.
- 5) Augustine Yellu, Wayne Scales, Alireza Mahmoudian, P. A. Bernhardt, C. L Sieftring, and M. J. McCarrick. "Observations of Second Harmonic Stimulated Electromagnetic Emission Generation during Ionospheric Heating." American Geophysical Union, Fall Meeting,.
- 6) Brett Isham, Bjorn Gustavsson, Terrence Bullett, Alireza Mahmoudian, and Vasyl Belyey. "An MF/HF radio array for radio and radar imaging of the ionosphere." Committee on Space Research COSPAR,.
- 7) Alireza Mahmoudian, Andrew Senior, Wayne A Scales, Michael Kosch, and Charles Bardeen. "DUSTY SPACE PLASMA DIAGNOSIS USING TEMPORAL BEHAVIOR OF POLAR MESOSPHERIC SUMMER ECHOES DURING SOLAR PROTON EVENT." Committee on Space Research COSPAR,.
- 8) Alireza Mahmoudian, Eliana Nossa, Brett Isham, Paul A Bernhardt, and Stan Brizcinski. "Recent Observations and Modeling of Mid-latitude Ionospheric Stimulated Electromagnetic Emissions." Committee on Space Research COSPAR,.
- 9) Alireza Mahmoudian, Brett Isham, Paul A Bernhardt, Eliana Nossa, and Stan Brizcinski. "Recent Advances in Active Ionospheric Modulation by High-Power HF Radio-waves and Sideband Detections." 2nd URSI AT-RASC, Gran Canaria, 28 May – 1 June 2018,.
- 10) Alireza Mahmoudian, Eliana Nossa, Brett Isham, Paul A Bernhardt, and Stan Brizcinski. "Mid-latitude Narrowband Stimulated Electromagnetic Emissions (NSEE): New Observations and Modeling." American Geophysical Union,.

مقالات چاپ شده در نشریات بین المللی

- 1) Alireza Mahmoudian, M. J. Kosch, W. A. Scales, X.. Shi, M. J. Ruohoniemi, Andrew Senior, T. K. Yeoman, and A.. Senior. "Multi-frequency SuperDARN radar observations of the modulated ionosphere by high-power radio-waves at EISCAT." ADVANCES IN SPACE RESEARCH 0, no. 0 (2020): .
- 2) Augustine Yellu, Wayne Scales, Alireza Mahmoudian, Paul Bernhardt, Carl Sieftring, Stan Briczinski, Eliana Nossa, and Mike McCarrick. "Pump Power Effects on Second Harmonic Stimulated Electromagnetic Emissions during Ionosphere Heating." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS 0, no. 0 (2019): .
- 3) Maryam Gharaylou, Majid Mazraeh Ee Farahani, Morteza Hosseini, and Alireza Mahmoudian. "Numerical study of performance of two lightning prediction methods based on: Lightning Potential Index (LPI) and electric POTential difference (POT) over Tehran area." JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS 193, no. 0 (2019): 105067.
- 4) Alireza Mahmoudian, Eliana Nossa, Brett Isham, Paul Bernhardt, Stan Briczinski, and Mike Sulzer. "NSEE Yielding Electron Temperature Measurements at the Arecibo Observatory." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS 00, no. 00 (2019): .
- 5) Alireza Mahmoudian, and Mohammad Javad Kalae. "Study of ULF-VLF wave propagation in the near-Earth environment for earthquake prediction." ADVANCES IN SPACE RESEARCH 0, no. 0 (2019): 0.
- 6) Alireza Mahmoudian, Andrew Senior, Mike Kosch, Wayne Scales, Mike Rietveld, Brett Isham, Xue Shi, and Mike Ruohoniemi. "Investigation of incoherent scatter radar spectra features with stimulated electromagnetic emissions at EISCAT." ADVANCES IN SPACE RESEARCH 0, no. 0 (2019): 0.
- 7) Alireza Mahmoudian. "Dusty Space Plasma Diagnosis Using the Behavior of Polar Mesospheric Summer Echoes During Electron Precipitation Events." JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS 123, no. 9 (2018): 7697-7709.

- 8) Alireza Mahmoudian. "First Observations of Narrowband Stimulated Electromagnetic Emissions at the Pump Frequency Second Harmonic During Ionosphere Interaction Experiments." *GEOPHYSICAL RESEARCH LETTERS* 00, no. 00 (2018): 00.
- 9) Alireza Mahmoudian. "Artificial Ionospheric GPS Phase Scintillation Excited During High-Power Radiowave Modulation of the Ionosphere." *RADIO SCIENCE* 53, no. 6 (2018): 775-789.
- 10) Alireza Mahmoudian. "Initial results of stimulated radiation measurements during the HAARP campaign of September 2017." *Radiation Effects and Defects in Solids* 173, no. 1-2 (2018): 66-72.
- 11) Alireza Mahmoudian. "Investigation of third gyro-harmonic heating at HAARP using stimulated radio emissions and the MUIR and Kodiak radars." *ADVANCES IN SPACE RESEARCH* 59, no. 1 (2017): 337-350.
- 12) Alireza Mahmoudian. "Charged dust phenomena in the near-Earth space environment." *REPORTS ON PROGRESS IN PHYSICS* 79, no. 10 (2016): 106802.
- 13) Alireza Mahmoudian. "Studies of the ionospheric turbulence excited by the fourth gyroharmonic at HAARP." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS* 120, no. 8 (2015): 6646-6660.
- 14) Alireza Mahmoudian. "Electron gyroharmonic effects on ionospheric stimulated Brillouin scatter." *GEOPHYSICAL RESEARCH LETTERS* 41, no. 16 (2014): 5710-5716.
- 15) Alireza Mahmoudian. "First modulation of high-frequency polar mesospheric summer echoes by radio heating of the ionosphere." *GEOPHYSICAL RESEARCH LETTERS* 41, no. 15 (2014): 5347-5353.
- 16) Sebastien De Larquier, Ahmed Eltrass, Alireza Mahmoudian, J. Michael Ruohoniemi, Jbh Baker, Wayne A. Scales, Phil Erickson, and Raymond A. Greenwald. "Investigation of the temperature gradient instability as the source of midlatitude quiet time decameter-scale ionospheric irregularities: 1. Observations." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS* 119, no. 6 (2014): 4872-4881.
- 17) Alireza Mahmoudian. "Investigation of the temperature gradient instability as the source of midlatitude quiet time decameter-scale ionospheric irregularities: 2. Linear analysis." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS* 119, no. 6 (2014): 4882-4893.
- 18) Maiytree Bordikar, Wayne A Scales, Alireza Mahmoudian, Hyomin Kim, Paul A Bernhardt, Rob Redmon, Alireza Samimi, Stan Briczinski, and Mike Mccarrick. "Impact of active geomagnetic conditions on stimulated radiation during ionospheric second electron gyroharmonic heating." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS* 119, no. 1 (2014): 548-565.
- 19) Alireza Mahmoudian, and Wayne A Scales. "On the signature of positively charged dust particles on plasma irregularities in the mesosphere." *JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS* 104, no. 104 (2013): 260-269.
- 20) Alireza Mahmoudian, Wayne A. Scales, Paul A Bernhardt, Haiyang Fu1, Stan J Briczinski, and Mike J Mccarrick. "Investigation of ionospheric stimulated Brillouin scatter generated at pump frequencies near electron gyroharmonics." *RADIO SCIENCE* 48, no. 6 (2013): 685-697.
- 21) Haiyang Fu1, Wayne A. Scales, Paul A Bernhardt, Alireza Samimi, Alireza Mahmoudian, Stan J Briczinski, and Mike J Mccarrick. "Stimulated Brillouin scatter and stimulated ion Bernstein scatter during electron gyroharmonic heating experiments." *RADIO SCIENCE* 48, no. 5 (2013): 607-616.
- 22) Alireza Mahmoudian, Wayne A. Scales, Paul A Bernhardt, Alireza Samimi, Elizabeth Kendall, J. Michael Ruohoniemi, Brett Isham, Osvaldo Vega-cancel, and Maitreyee Bordikar. "Ion gyro-harmonic structuring in the stimulated radiation spectrum and optical emissions during electron gyro-harmonic heating." *JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS* 118, no. 3 (2013): 1270-1287.
- 23) Alireza Mahmoudian, and Wayne A Scales. "Temporal evolution of radar echoes associated with mesospheric dust clouds after turn-on of radio wave heating." *JOURNAL OF GEOPHYSICAL RESEARCH* 117, no. D6 (2012): n/a-n/a.
- 24) Alireza Mahmoudian, and Wayne A Scales. "Irregularity excitation associated with charged dust cloud boundary layers." *JOURNAL OF GEOPHYSICAL RESEARCH* 117, no. A2 (2012): n/a-n/a.
- 25) Alireza Mahmoudian, Wayne A. Scales, Mike J Kosch, Andrew Senior, and Mike Rietveld. "Dusty space plasma diagnosis using temporal behavior of polar mesospheric summer echoes during active modification." *ANNALES GEOPHYSICAE* 29, no. 11 (2011): 2169-2179.

26) Wayne A Scales, Maiytree Bordikar, Alireza Mahmoudian, and Haiyang Fu1. "Irregularities Associated With Creation of Dusty Plasmas in the Near-Earth Space Environment." IEEE TRANSACTIONS ON PLASMA SCIENCE 38, no. 4 (2010): 880-885.

27) Alireza Mahmoudian, and Keyvan Forooraghi. "A Novel Planar Leaky Wave Antenna for Wireless Application." JOURNAL OF ELECTROMAGNETIC WAVES AND APPLICATIONS 22, no. 2-3 (2008): 313-324.

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1) Alireza Mahmoudian, Swadesh Patra, Fatemeh Sadeghikia, and Peyman Aliparast. "First mesospheric in-situ measurement in Iran using sounding rockets and plasma impedance probe (PIP)." Journal of the Earth and Space Physics 0, no. 0 (2019): .

2) علیرضا محمودیان و محمدجواد کلائی. "بررسی تحرک و انتشار امواج الکترومغناطیس باند فرکانسی بسیار پایین در ناحیه نزدیک به سطح زمین." مجله فیزیک زمین و فضا 45، 1 (1398): 165-176.

همایش‌های داخلی

1) علیرضا محمودیان. "شبه سازی عددی سیگنال پراکنده شده راداری از پلاسمای غباری حاضر در جو زمین." چهارمین کنفرانس فیزیک محاسباتی ایران، تهران.

2) علیرضا محمودیان. "آزمایشات فضایی فعال با استفاده از امواج قوی الکترومغناطیس در باند فرکانسی بالا." هفتمین کنفرانس مهندسی و فیزیک پلازما.

راهنمایی پایان نامه

1) مطالعه انتشار امواج EM از ایستگاههای ترکیه و هند با هدف اعتبارسنجی داده های گیرنده VLF موسسه ژئوفیزیک، مریم فلاح راد، دانشگاه تهران، 1399/06/23

مشاوره پایان نامه

1) مطالعه ارتباط رخداد آذرخش ابر به زمین و غلظت آلاینده های سطحی در منطقه تهران، پگاه صدردادرس، دانشگاه تهران، 1398/06/31

عناوین دروس

1) پیش نشانگرهای زلزله، کارشناسی ارشد، 1398-1399، 1

2) هواشناسی راداری، دکتری 1، 1396-1399، Ph.D.

علاقه شخصی

1) فیزیک پلاسمای فضایی

2) آزمایشات فضایی فعال

3) فیزیک و شیمی جو بالا

4) طراحی وسایل اندازه گیری در علوم فضایی

5) انتشار امواج الکترومغناطیس