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Article 1:

An Overview of the Total and Spectral Solar Irradiance Sensor (TSIS-1) Mission

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The Total and Spectral Solar Irradiance Sensor (TSIS-1) launched to the International Space Station (ISS) in December, 2017 and has been making daily measurements of solar irradiance since early 2018 (Figure 1). The instruments comprising the TSIS-1 mission are the Total Irradiance Monitor (TIM), which measures the total solar irradiance (TSI) in Watts per square meter and the Spectral Irradiance Monitor (SIM), which measures the wavelength-dependent distribution of solar irradiance, known as the solar spectral irradiance (SSI), in Watts per square meter per nanometer. The TSIS-1 TIM and SIM instruments draw their heritage from NASA's SOlar Radiation and Climate Experiment (SORCE) mission. The SORCE mission was passivated in February, 2020 after providing more than 17 years of daily solar irradiance observations. TSIS-1 is now NASA's flagship solar irradiance mission and its overall goal is to provide accurate

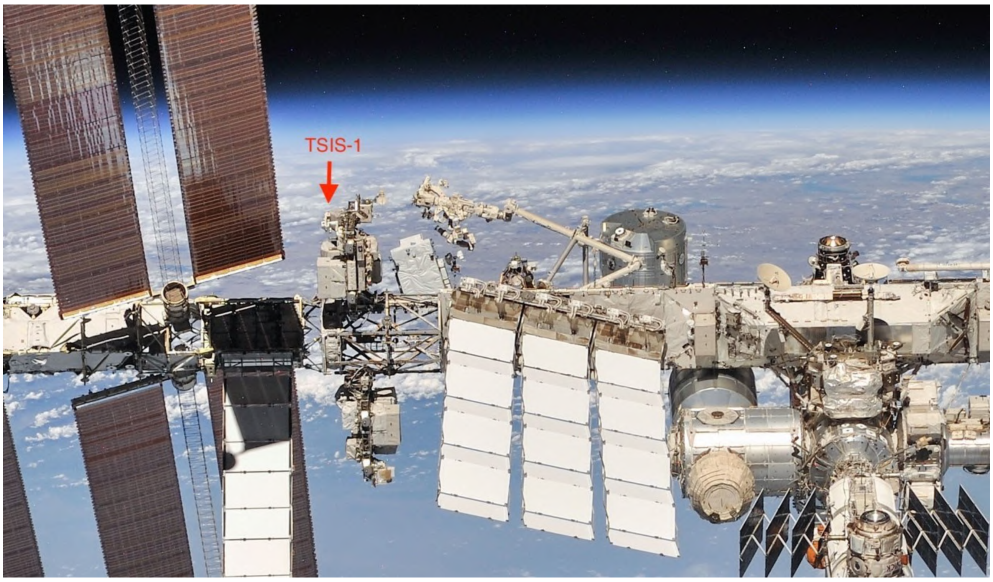

Figure 1. The TSIS-1 instrument suite on the International Space Station.

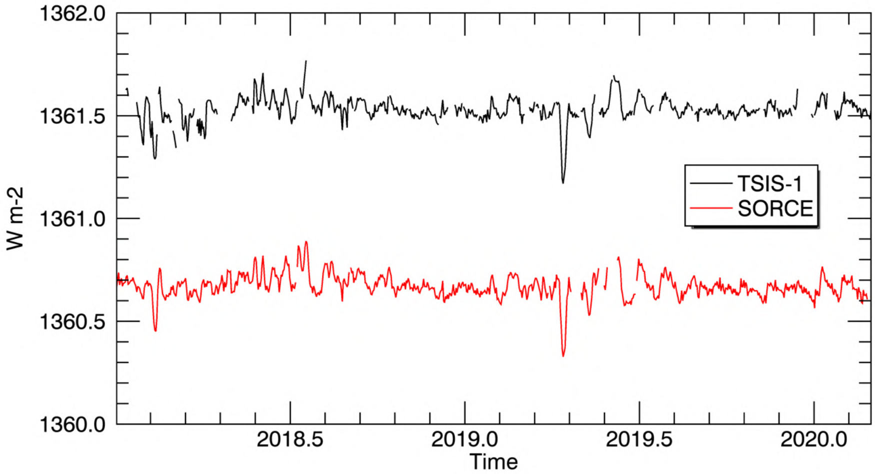

Figure 2. TSI as observed by the SORCE and TSIS-1 TIM instruments during their 2-year overlap period. Current SORCE and TSIS-1 TIM uncertainties are ~450 ppm (0.6 W/m2) and ~150 ppm (0.2 W/m2), respectively.

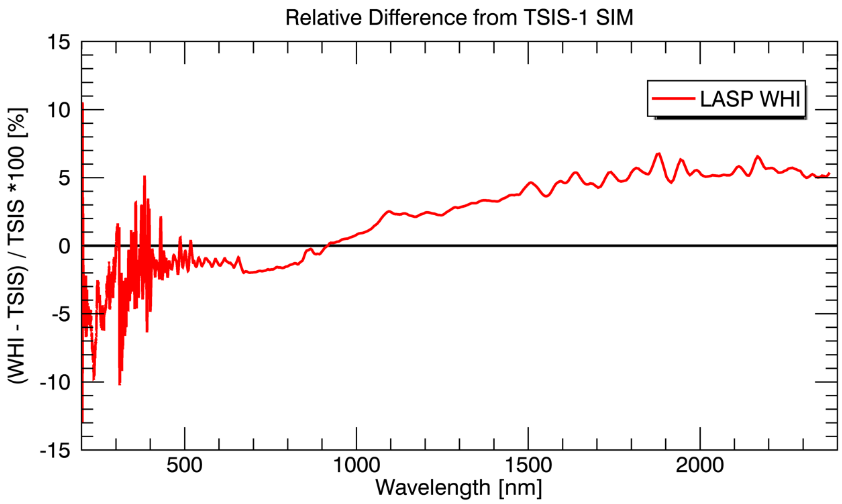

Figure 3. The relative percent difference of the LASP Whole Heliosphere Interval (WHI) 2008 reference spectrum to that observed by TSIS-1 SIM.

TSI and SSI observations to better understand solar forcing variations and their impacts in the Earth climate system. The TSIS-1 instruments, like the predecessor SORCE instruments, were built at University of Colorado's Laboratory for Atmospheric and Space Physics (LASP). TSIS-1 solar irradiance data are publicly available from https://lasp.colorado.edu/home/tsis/data.

The need to observe small signals over climate timescales places very exacting requirements on the accuracy and stability of satellite instrumentation. For solar irradiance, absolute accuracies of 100 part per million (ppm) in TSI and 2000 ppm (0.2%) for SSI are needed to understand climate processes. To achieve such high accuracies the TSIS-1 instruments are characterized as 'absolute sensors' in world-class radiometric calibration facilities built specially at LASP. Determining long-term solar irradiance changes also requires very high stability because solar cycle 11-year variations are only 1% at 260 nm, reducing to 0.1% for TSI and even smaller for near-infrared SSI. The sensitivities of the TSIS-1 instruments, similar to SORCE, degrade as the mission progresses due to exposure to harsh solar radiation. The SORCE technique to correct for instrument degradation with redundant, and independent, instrument channels that are exposed to the Sun at varying duty cycles is also employed for TSIS-1 instruments. The channel used daily, and therefore the most degraded over time, is corrected by co-incident irradiance observations by the less-often used channels. The TSIS-1 SIM has an additional channel relative to SORCE SIM for improved degradation monitoring.

Thus far, during the first two years of the 5-year TSIS-1 mission lifetime, solar variability has been relatively low. Nonetheless, advances in knowledge are already being made and we look forward to even more from the high quality TSIS-1 observations as solar irradiance begins to ramp up in solar cycle 25. We conclude with two key TSIS-1 findings:

- Observations by the TSIS-1 TIM agree within the uncertainties to the new, lower value of TSI (~1361 W m^{-2}) established by the SORCE TIM instrument (Figure 2).
- Observations of the Sun's spectrum by the TSIS-1 SIM, with the best ever accuracy, show differences approaching 10% at some wavelengths from other reported solar irradiance spectra (Figure 3), necessitating a new TSIS-1 solar reference spectrum (in development).

Article 2:

Egyptian Activities in Solar- Terrestrial Physics

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(*) Egypt has become a new member country of SCOSTEP since 2020.

Researchers in National Research Institute of Astronomy and Geophysics (NRIAG) concern in the influence of ultraviolet solar radiation EUV on the ozone layer of earth, the periodicities in the solar wind and its correlation with Geomagnetic storms, the effect of solar proton flares on radio communications, near satellites orbits, high-latitudes electric grids, ionosphere electric currents, and polar cap absorption. The variability of solar constant measured from ground stations and artificial satellites and its influence on the earth's atmosphere was studied. The correlation between the old solar activity and the Nile flooding in the ancient Egypt and the periods of rising and falling of the civilization of the ancient Egyptians through seven thousand years was restudied on the base of long data of Nile flooding.

The group of solar physics and space weather in Cairo University is focusing on the CME as an important source for disturbances in near Earth space environment. The geoeffective CMEs are: Halo CME (HCME) or partial CME (PCME). There are many crucial questions which we are of interest, regarding HCMEs and PCMEs and their possible impact to the space environment: How it originates from the Sun? How do they propagate and evolve in the inner heliosphere? How can we predict the probability of their time of arrival and geo-effectiveness? The answers of these questions can provide the possibility to develop the prediction capability of space weather.

In Space Weather Monitoring Center (SWMC), Helwan University the solar physics group, are concerned with monitoring the solar active phenomena such as the Coronal Mass Ejections (CME), solar flares, and coronal shock waves, to understand their properties and to mitigate their negative impact on the terrestrial space environment. The research work includes, but not limited to, studying the characteristics of the type-II radio bursts, associated with CMEs and shock waves, using combined observations from the ground-based Compound Astronomical Low-frequency Low-cost Instrument for Spectroscopy and Transportable Observatory (CALLISTO) stations and the coronagraph onboard the Solar and Heliospheric Observatory (SOHO) satellite. Besides, implementing a warning system to forecast the arrival time of CMEs to Earth based on artificial neural networks.

Figure 1. Helwan Observatory

Figure 2. (CALLISTO) antenna implementation in SWMC Helwan University, Egypt.

About Egyptian Space Agency(EgSA), space environment group working in the prediction of space environment and its effect on satellite subsystems. The research works comprise but not restricted to, the classifications of the solar active regions (ARs), the effect of solar activities on Atomic Oxygen (AO) densities at LEO orbits, the ionosphere disturbance using scintillation parameters and its impact on the LEO Satellites during the Geomagnetic storms, and the space weather forecasting and warning using artificial Intelligent.

Recently, EgSA submitted "Space Plasma Nanosatellite Experiment Mission" (SPNEx) project to COSPAR to contribute on establishing a Constellation of Small Satellites for measuring plasma conditions in the ionosphere. This mission to develop and lunch small satellite for characterization of Ionospheric variability, in particular space plasma parameters (Density, temperature, Debye length). The collected data will be used to improve the model of ionosphere, which will stimulate studies for space weather and climate change.

Article 3:

The Beginning of 25-th Solar Cycle

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Forecast of 11-year solar cycle is necessary for planning of human activity, because many phenomena on Earth, for example climate changes (Maruyama et al., 2017), show correlation with solar activity level. An adequate information and identification of precursors of next activity cycle set the task of forecast into the category of early diagnostics of the cycle beginning. This makes information about the cycle precursors valuable and timely for users.

The concept of precursors and early manifestations of a new cycle at high heliolatitudes was formulated by Sheeley (1964), Makarov and Makarova (1996), La Bonte and Howard (1982), Tlatov (2009). A new cycle originates in the polar zone, where the polar faculae and bright dots observed in K CaII line arise. This occurs at the descending phase of previous activity cycle.

We investigated magnetic activity in the middle latitude zone by using a multifractal segmentation method, described by Levi-Vehel and Vojak (1998), Golovko and Salakhutdinova (2018). The daily magnetograms of the solar full disk obtained with the SOLIS vector spectromagnetograph (Henney et al., 2006), were used. Each segmented image was combined with Stonyhurst grid, and in the middle latitude zones from 40 to 60 degrees, the magnetic knots, which were recognized by the program as new magnetic fluxes in Ephemeral Active Regions (EFR), were registered as events. Their coordinates, as well as magnetic polarity, were recorded.

Statistics of magnetic knots with a size of 3-4” revealed the peak of maximum of the knots population number during 2007-2008, which preceded by two years the beginning of the solar cycle 24 (Figure 1). A similar peak commenced in 2016 gave the prediction of the beginning of cycle 25 during 2019.

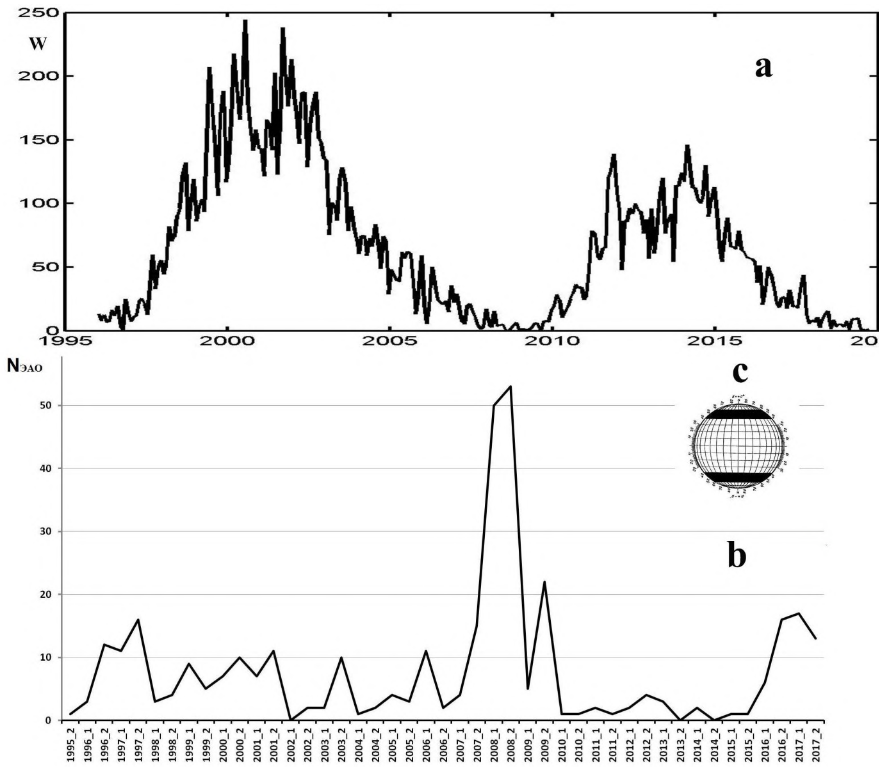

Figure 1. a – Wolf number, b – variation of variation of the new magnetic knots at the middle latitudes, c - view of middle latitude belt on the Stonyhurst grid.

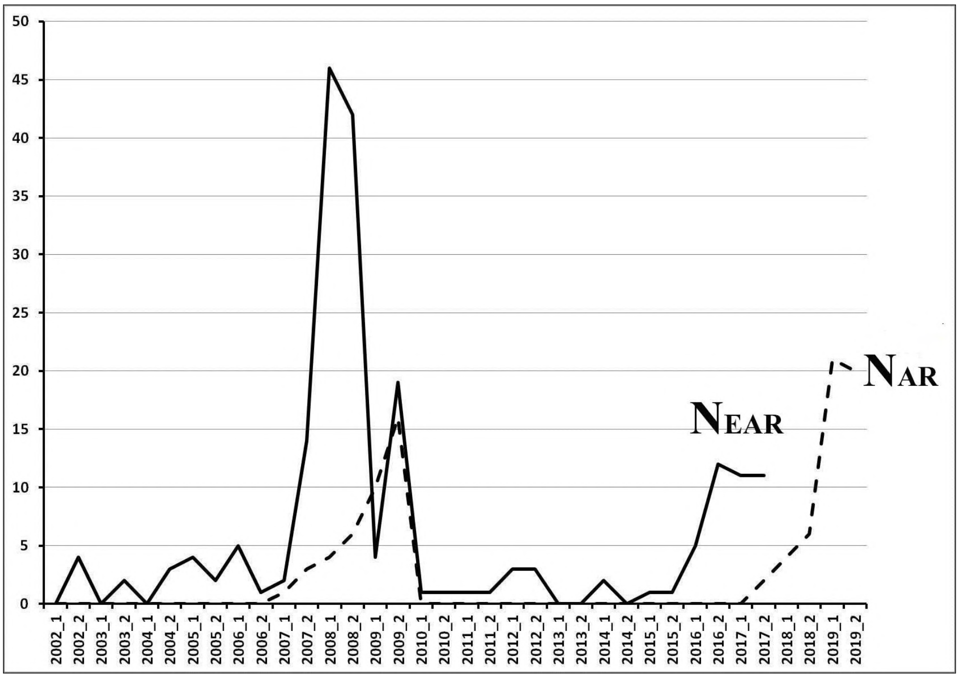

Figure 2. The number of magnetic knots in EFRs N_{EAR} in comparison with the number of new ARs N_{AR} during start of 24-th and 25-th solar cycles.

Statistics of active regions of new solar cycle began with appearance of them in the latitude zone from 20 to 40 degrees (Figure 2). Active regions (AR) of the new 25th cycle have been recorded by observations since 2017, and in the first quarter of 2019 the number of them amounted to 12 (in March 2019 NOAA No.12734-12737). In the second and third quarters their number decreased slightly (NOAA 12738-12752), but in the fourth quarter of 2019 there were 13 new cycle ARs. At the beginning of 2020, ARs 12753, 12755, 12756 of a new cycle arose.

The phenomenon of EARs in the middle latitude zone can serve a diagnostics of start of new cycle.

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Article 4:

High-energy Electron Precipitation Into the atmosphere: an assessment based on balloon-borne observations and model Calculations (H-EPIC)

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Energetic electrons during geomagnetic disturbances precipitate into the Earth atmosphere at high latitudes. Primary collisions with the most abundant species N_2 and O_2 start ion- and neutral chemistry reactions from the upper stratosphere to the lower thermosphere (30-110 km), greatly affecting the neutral chemical composition. Well-known effects are the formation of NO_X (N, NO, NO_2, NO_3) from dissociation of N_2, and the release of HOx (H, OH, HO_2) from positive cluster ions. NO_x partly transforms to NO_y species ($NO_y = NO_x + HNO_3 + HNO_4 + 2\ N_2O_5 + ClONO_2$) which can be transported down into the stratosphere below 45 km altitude in large-scale downward motions over polar latitudes during winter, and destroy ozone there in catalytic cycles, the so-called "Energetic particle precipitation indirect effect". As ozone plays a key role in the radiative balance of the stratosphere, changes in its concentration directly affect stratospheric temperatures and start a chain of dynamical coupling mechanisms affecting atmospheric temperatures and circulation over large

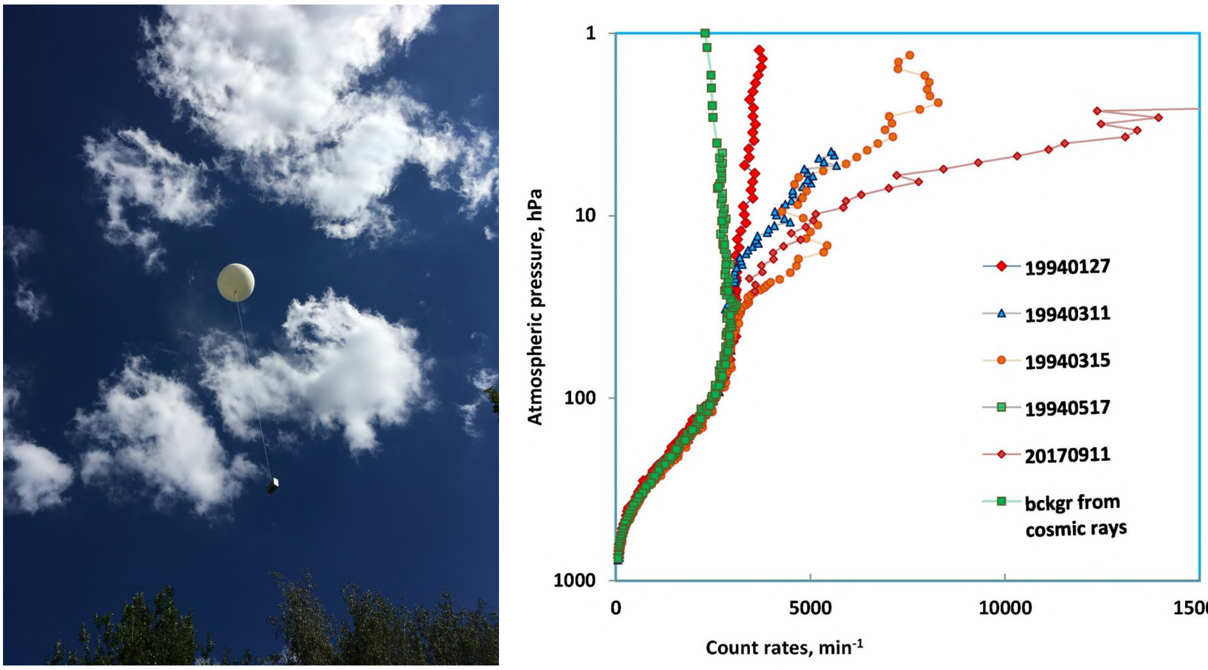

Figure 1. Balloon-borne observation of energetic electron precipitation. Left panel: a radiosonde in flight with sensors and Geiger counters. Right panel: the count rates of the radiosonde versus atmospheric pressure during quiet geomagnetic conditions (secondary cosmic rays background) and during HEEP events.

areas down to the troposphere. Because of its apparent importance for winter and spring weather systems, it is now recommended to include energetic particle precipitation as part of the natural solar forcing of the climate system, e.g., for model studies initiated by the World Climate Research Programme (WCRP). However, recent analyses of the atmospheric ionization rates based on satellite-based electron flux observations widely used in chemistry-climate models suggest a large underestimation of these rates, in particular during and after geomagnetic storms when high-energy electron precipitation (HEEP) occurs. Observations of atmospheric ionization with the balloon experiment of the Lebedev Physical Institute provide an important independent source of information for the evaluation of these data, extending the useful energy range from hundreds of keV to several MeV.

In the frame of our German-Russian cooperation project which started at the beginning of this year, we investigate the impact of HEEP events on the chemical composition, temperature and dynamics of the middle atmosphere (stratosphere and mesosphere) by combining atmospheric ionization rates derived from observations of large HEEP events with a long-time balloon data-set going back to 1961 (Makhmutov et al., 2016; Bazilevskaya et al., 2017, see also Fig. 1) with models of the middle atmosphere of different complexity: a 1-dimensional chemical model with full ion-chemistry (Fig. 2) and global chemistry-climate models (Fig. 3). Satellite observations of trace constituents are used to evaluate the model performance.

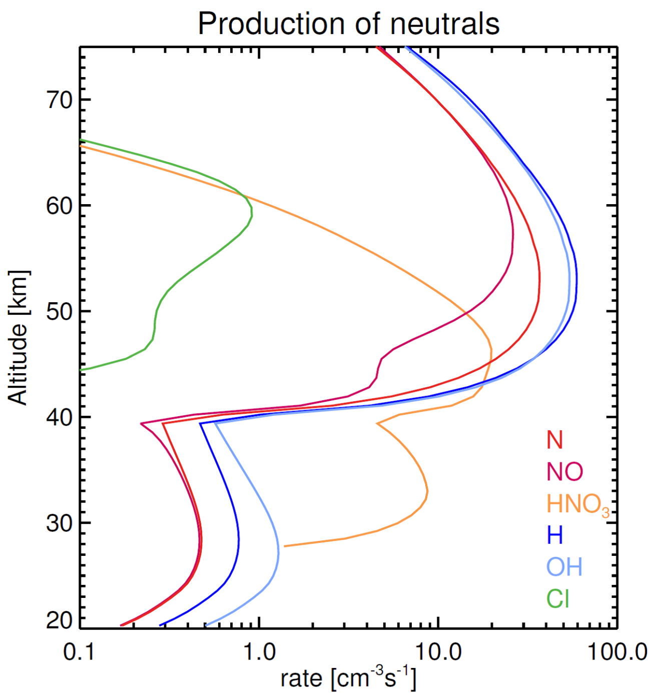

Figure 2. Formation rates of neutral species due to ion chemistry, calculated by the ion-chemistry model ExoTIC (e.g., Herbst et al., 2019) for a moderate HEEP event observed by balloon observations on March 12, 2004, over Murmansk.

Acknowledgment

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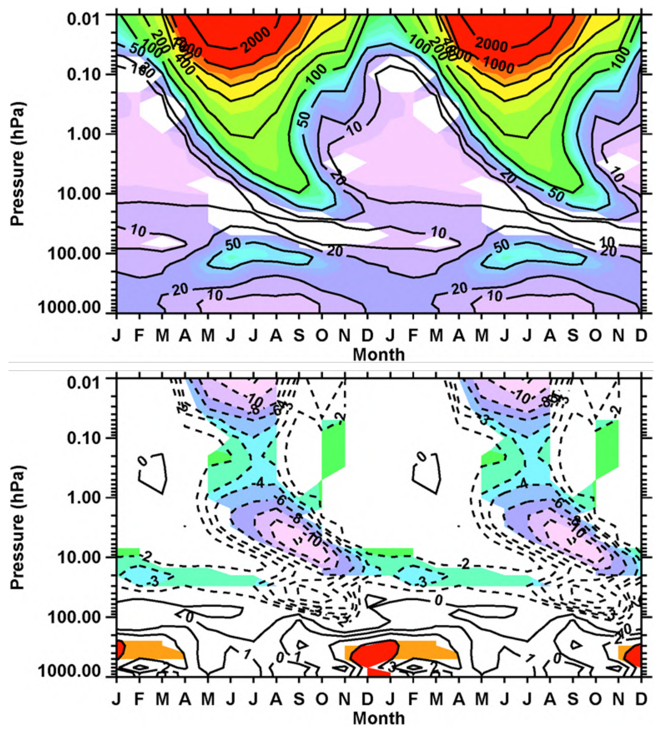

Figure 3. Monthly mean response of 60°-90°S mean NOx (upper panel, %) and O_3 (lower panel, %) caused by energetic particle precipitation simulated with the chemistry-climate model SOCOL (Rozanov et al., 2012). Color pattern indicates the regions where the changes are judged statistically significant at or better than 10% level. Twelve months of the monthly run climatology are repeated.

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Highlight on Young Scientists 1:

Vertical Chemical-Dynamical Coupling Mechanisms behind the Solar-induced Variabilities of the Mesosphere-Thermosphere-Ionosphere System

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Space-based technologies (e.g. satellites, GPS, etc.) are very sensitive to the variabilities of the Mesosphere-Thermosphere-Ionosphere System. Thus, it is important we fully understand these variabilities for us to maintain these technologies. Solar forcing significantly drives the variabilities of this system. However, the physical mechanisms, specifically the role of vertical chemical-dynamical coupling, behind how this system responds to solar forcing is still very unclear (Lee et al, 2018; Lee and Wu, 2020). My research aims to investigate these vertical chemical-dynamical coupling mechanisms using satellite observations and first principles Physics-based simulations. In Salinas et al (2018), I showed how vertical chemical-dynamical coupling drives the solar cycle response of CO_2 in the mesosphere and lower thermosphere (MLT). This is shown in figure 1. I showed that regions of relatively higher solar cycle response are driven by the constructive interference of photochemistry, downwelling and reduced eddy diffusion due to gravity waves. I also showed that regions of relatively lower solar cycle response are driven by the opposing effects of photochemistry and enhanced eddy diffusion. These explained the role of chemical-dynamical coupling in the solar cycle response of CO_2 in the MLT. I then explained that all of these circulation and eddy diffusion changes are due to solar cycle-induced changes in the stratosphere. This show-cased the role of vertical coupling in the solar cycle response of CO_2 in the MLT. I am currently expanding my research to encompass other tracers including H_2O, CO and O_3, other dynamical phenomena such as planetary-scale waves and tides as well as other solar phenomena such as geomagnetic storms. I recently got accepted for an Associate Earth Scientist Position at the NASA Goddard Space Flight Center under the Universities Space Research Association Goddard Earth Sciences Technology and Research (USRA GESTAR) to continue my research on these.

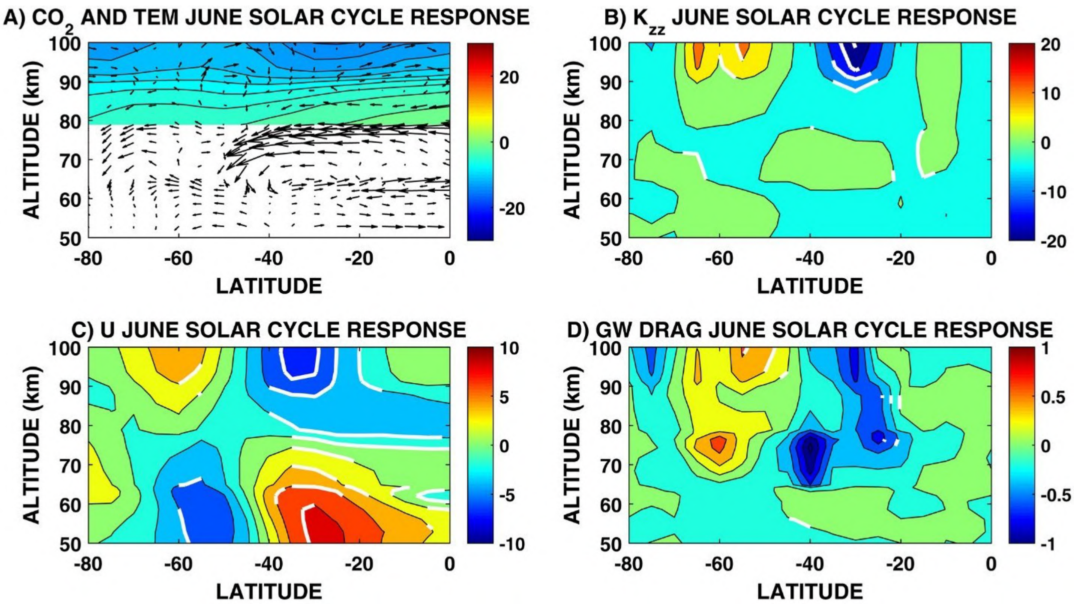

Figure 1. Regression coefficients between (a) F10.7 index and CO_2 residual as well as the residual circulation wind vectors, (b) F10.7 index and eddy diffusion coefficients, (c) F10.7 index and zonal-mean zonal wind, (d) F10.7 index and gravity wave drag multiplied by 1,000. For more information, please see Salinas et al (2018).

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Highlight on Young Scientists 2:

The Optical Signature of Energetic Electron Precipitation from the Radiation Belt

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The nightside dipolar transition region of the Earth's magnetosphere that ranges from 6 − 10 RE is mostly unexplored. However, this is a source of energetic proton and electron precipitation induced by current

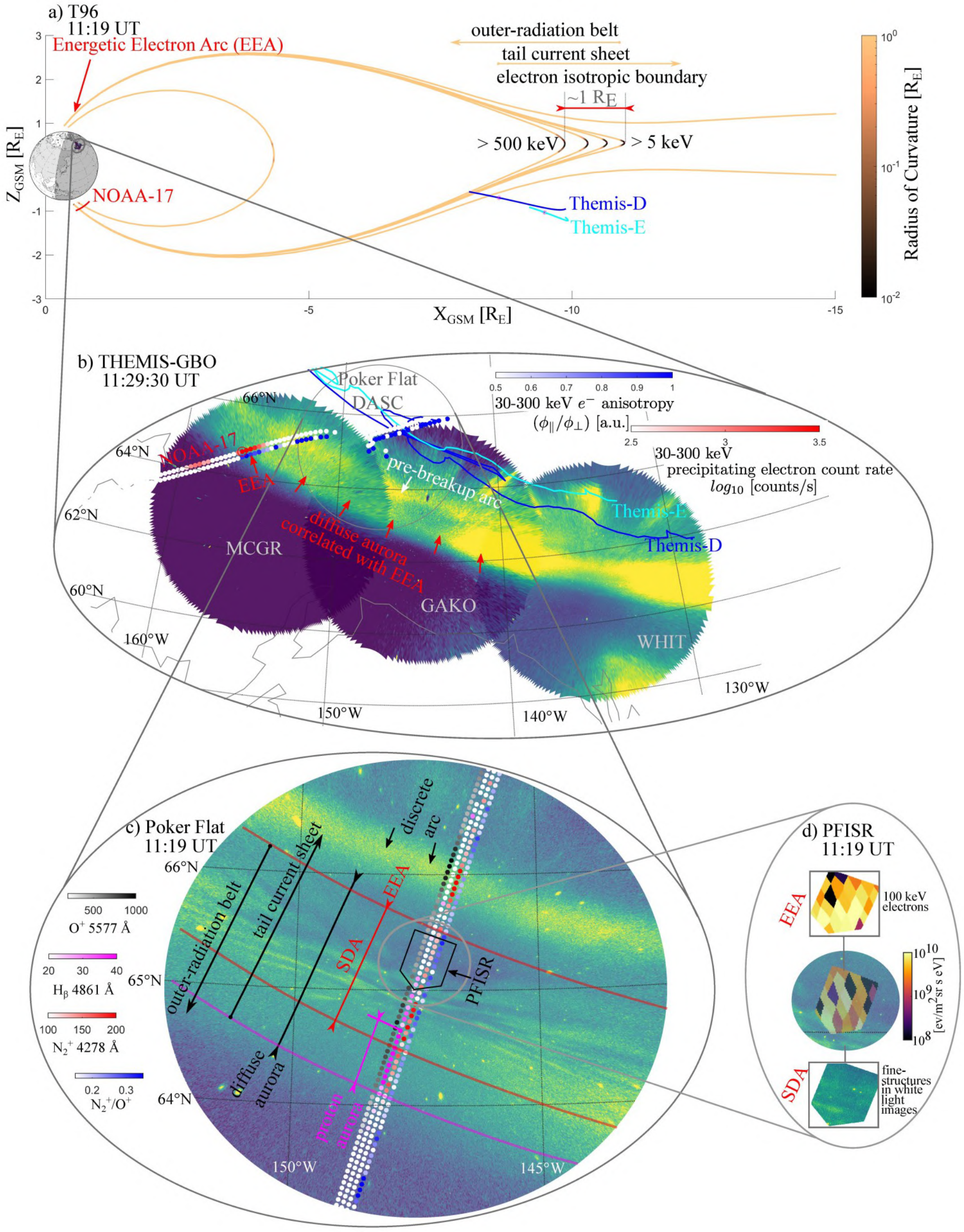

Figure 1. Overview of optical signature of energetic precipitation from the outer radiation belt boundary: a) T96 magnetic field lines with radius of curvature reaching a minimum near the magnetic equatorial plane - with the THEMIS-D, -E and NOAA-17 orbit tracks. b) All-sky cameras with northern magnetic footprints of spacecrafts, showing the large-scale structure of the diffuse aurora correlated with the EEA overlaid with electron count-rates and anisotropy measurements from NOAA-17 at 11:29:30 UT. c) DASC at Poker Flat, overlaid with MSP measurements, showing the ionospheric location of the EEA overlapping with the SDA with respect to the proton aurora. d) Energy flux map of 100 keV electrons estimated from PFISR measurements, correlated with the fine-scale optical signatures of the SDA. Same as Figure 1 in [3].

sheet scattering [1], [2]. This mechanism results from the pitch angle scattering due to the violation of the first adiabatic invariant, as the radius of curvature of the magnetic field line in the current sheet becomes smaller than the gyroradius of the charged particles [2].

The resulting energetic precipitation is a part of the electron isotropic boundary and the outer radiation belt boundary. It leaves an auroral signature at high latitudes, especially during strong substorm growth phases. Such a growth phase leads to a stretching magnetotail with a radius of curvature at 10 R_E less than 0.1 RE, which is close to gyroradius of electrons $\sim 5 - 500$ keV (See Figure 1a). Figure 1b) shows the THEMIS-GBO observations of diffuse aurora, with a pre-breakup (or growth-phase) arc during the late growth phase, with magnetically conjugate footpoints of the NOAA-17 spacecraft. The red spacecraft track indicates the flux of 30-300 keV electron precipitation that peaks at the diffuse aurora's poleward shoulder.

At Poker Flat, a more detailed image of the diffuse aurora with Poker Flat Incoherent Scatter Radar measurements of energetic precipitation shows a structured diffuse aurora (SDA) spanning the poleward shoulder of the diffuse aurora (See Figure 1c). The SDA spatially and temporally correlates with energetic electron precipitation from the outer radiation belt boundary (See Figure 1d). Moreover, the energetic electron precipitation has a latitudinal energy dispersion corresponding to the magnetic field line's radius of curvature at the magnetic equatorial plane [3]. This confirms the link between the SDA and the outer radiation belt boundary from the dipolar transition region.

Historically, it was thought that the energy flux of radiation belt precipitation is not sufficiently high to produce optical emissions. However, in this study, we found that the energy flux of electrons >30 keV from the current sheet scattering was about 1 mW/m^2 , sufficient to produce visible emissions, detectable by a scientific white-light camera [4]. This work demonstrates that precipitation from the dipolar transition region might have a spatial structure likely associated with the source plasma population's properties or the scattering mechanism. We have evaluated four other strong substorms and found both the SDA and the corresponding energetic electron precipitation. However, we could find a growth phase conjunction in only one of them, suggesting that for around 40% of strong substorm growth phases, we might see auroral signatures of the outer radiation belt boundary.

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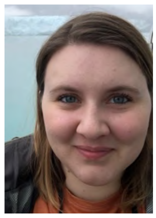
Highlight on Young Scientists 3:

Examining Energetic Proton Cutoff Rigidities in the Equatorial Magnetosphere



Rachael J. Filwett

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I am currently a 2nd year Postdoctoral Researcher at the University of Iowa working with Prof. Allison Jaynes. My main research interests are in ion acceleration and transport, particularly from solar wind transients. I am interested in both the interplanetary-medium transport effects these ion experience, and the space weather effects on Earth's magnetosphere and the magnetospheres of the outer planets.

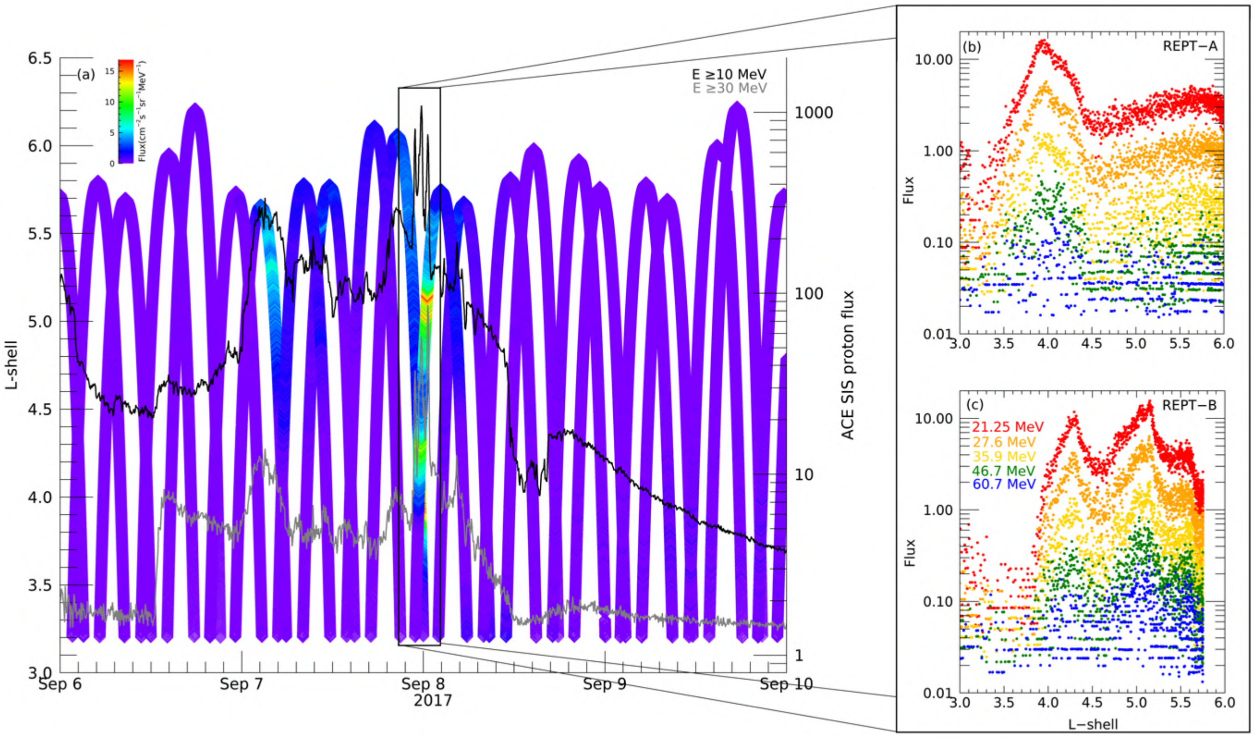

Figure 1. The 20-200 MeV proton flux for the solar energetic particle event on September 6-9, 2017 is shown in (a). Two half-orbit flux profiles for 20-60 MeV are shown for REPT-A (b) and REPT-B (c). The flux profile in (b) shows energetic solar protons accessing L<4.

Recently I have been analyzing solar energetic protons using the REPT instrument on the now-retired Van Allen Probes (RBSP), along with data from the EPD suite on MMS. These missions provide unique opportunities to study energetic particle access to the equatorial magnetosphere. My most recent work examined four of the largest solar energetic particle (SEP) events during the RBSP era. I examined the direct flux correspondence of SEPs at 1au to the flux observed in the inner magnetosphere. During geomagnetically quiet times small flux changes at 1au were measurable by REPT. Additionally, using the spin of RBSP I examined the flux of particles coming from geomagnetic "west" and "east". This directional measurement takes advantage of the varying magnetic shielding of gyrocenters inside and outside of the satellite orbit. The ratio of the west/east flux along with the orbit of RBSP gives a proxy measurement for cutoff rigidity that can be examined in relation to L-shell and MLT. Future work will include a statistical study of SEP events over the past decade, including modeling the relevant current systems that lead to suppressed cutoff rigidities.

Announcement 1:

SCOSTEP/PRESTO Online Seminar

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Ramon E. Lopez


Kazuo Shiokawa

Beginning in May 2020, SCOSTEP/PRESTO has begun to hold online seminars routinely. These online seminars will deliver the latest scientific topics and/or instructive review presentations of solar-terrestrial physics related to SCOSTEP's PRESTO program to scientists and students in all countries. The speakers of the seminar are assigned by the PRESTO Steering Committee. The online seminar will be announced by the SCOSTEP-all and other mailing lists and on the SCOSTEP website at www.bc.edu/scostep. The length of the seminar is 60 min (maximum) including 15-min question/discussion time using the Zoom meeting system. The seminar is only for scientific purpose and is not for commercial use. With the consent of the speaker, the seminar will be recorded and made available on the SCOSTEP website. The 1st speaker was Prof. Kanya Kusano of Institute for Space-Earth Environmental Research, Nagoya University, Japan (May 26, 12:00-13:00 UT), with a title of "A challenge to Physics-based Prediction of Giant Solar Flares". The 2nd speaker was Prof. Ilya Usoskin of University of Oulu, Finland (July 20, 12:00-13:00 UT), with a title of "Extreme solar events: A new paradigm".

Announcement 2:

New Member Countries

Patricia Doherty (SCOSTEP Scientific Secretary)
Institute for Scientific Research (ISR), Boston College, Boston, MA, USA


Patricia Doherty

We are pleased to announce that Croatia and Egypt have recently joined SCOSTEP as member countries.

Croatia is sponsored by the Zagreb Astronomical Observatory. The National Adherent Representative is Dr. Dragan Rosa of the Zagreb Astronomical Observatory. Institutions active in solar-terrestrial physics in Croatia include the Zagreb Astronomical Observatory, the Hvar Observatory of the University of Zagreb and the Faculty of Geophysics at the University of Zagreb.

Egypt is sponsored by the Egyptian Space Agency (EgSA) in Cairo, Egypt. The National Adherent Representative is Dr. Dalia Elfiky of the EgSA. Institutions active in solar-terrestrial physics in Egypt include Helwan University, the National Research Institute of Astronomy and Geophysics (NRIAG) and the Faculty of Navigation Science and Space Technology.

SCOSTEP is actively seeking new member countries. A membership committee, chaired by Dr. Jorge Chau of the Leibniz-Institute of Atmospheric Physics, is actively identifying and reaching out to potential member countries. Please contact Jorge Chau or Patricia Doherty for more information.

SCOSTEP has three main activities that address the needs of the solar terrestrial physics community worldwide: (1) Scientific programs, (2) Capacity building and outreach, (3) International Scientific Meetings. A SCOSTEP member country will have a say in the policy and functioning of SCOSTEP because the country will be represented in the SCOSTEP Council by a National Adherent Representative. The National Adherent Representative serves as a close liaison between SCOSTEP and the respective Adherents. The National Adherent Representatives also provide valuable advice in establishing the SCOSTEP scientific programs and as members of the General Council (GC) the Adherents participate in the governing and decision making of SCOSTEP.

Countries are now invited to apply for membership. The process begins with a responsible scientific body writing to the President of SCOSTEP seeking membership. The application letter should include the following: (i) list of solar-terrestrial physics activities in the country and the institutions that carry out these activities, (ii) the name and address of the responsible institution, (iii) the membership category, and (iv) the proposed name of the National Adherent Representative. After approval by the Bureau, the application will be presented to the SCOSTEP Council, which considers and acts on the admission of new member nations. In most countries the Academy of Sciences administers SCOSTEP affairs including selecting the National Adherent Representative from the solar-terrestrial physics community to the SCOSTEP General Council (GC) and sending annual dues to the SCOSTEP secretariat.

For more information on country membership applications, please contact the Scientific Secretary (Patricia.Doherty_at_bc.edu).

Announcement 3:

SCOSTEP Visiting Scholars – 2020

Patricia Doherty (SCOSTEP Scientific Secretary)
Institute for Scientific Research (ISR), Boston College, Boston, MA, USA


Patricia Doherty

SCOSTEP is pleased to announce the 2020 SCOSTEP Visiting Scholar (SVS) awardees. We received a record number of applications for 2020. The SVS committee carefully reviewed the many applications and selected the following candidates for awards:

Name	Gender	Home Institute	Home Advisor	Host Institute	Host Advisor
Kamalam Thillaimaharajan	F	IIG, Mumbai, India	Prof. Suktisama Ghosh	NASA, GSFC, USA	Dr. Nat Gopalswamy
Vanina Lanabere	F	University of Buenos Aires, Argentina	Dr. Sergio Dasso	NASA, GSFC, USA	Dr. Nat Gopalswamy
Volkan Sarp	M	Akdeniz University, Turkey	Dr. Ali Kilcik	NASA, GSFC, USA	Dr. Nat Gopalswamy
Krushna Chandra Barik	M	IIG, Mumbai, India	Dr. Satyavir Singh	Kyushu University, Japan	Dr. Akimasa Yoshikawa
Jordi Tuneu	M	CRAAM, Brazil	Guilermo Gimenez de Castro	NASA, GSFC, USA	Dr. Nat Gopalswamy
Ishita Gulati	F	Newcastle University, UK	Prof. Satnam Dlay (Newcastle Univ.)	IIG, Mumbai, India	Dr. S. Sripathi
Alemayehu Mangesha Cherkos	M	Addis Ababa University, Ethiopia	Melessew Nigussie (Bahir Dar)	ISEE, Nagoya, Japan	Prof. Yoshizumi Miyoshi
N. Koushik	M	ISRO, India	Dr. Kishore Kumar	Leibniz Institute of Atmospheric Physics, Rostock University, Germany	Dr. Franz-Josef Lubken
Biswajit Ojha	M	IIG, Mumbai, India	Dr. Satyavir Singh	NASA, GSFC, USA	Dr. David Sibeck
Dibyendu Sur	M	University of Calcutta, India	Dr. Ashik Paul	NASA, GSFC, USA	Dr. Shing Fung
Ayomide Olabode	M	Obafemi Awolow University, Nigeria	Dr. Babatunde Rabiu and Dr. Olawale Bolaji	IIG, Mumbai, India	Dr. Gopi Seemala

Name	Gender	Home Institute	Home Advisor	Host Institute	Host Advisor
Habtamu Marew Alemu	M	Bahir Dar University, Ethiopia	Melessew Nigussie (Bahir Dar)	SANSA, South Africa	Lee-Anne McKinnell
Maya Prabhakar	F	Indian Institute od Astrophysics, Bangalore	Dr. K. P. Raju	National Astronomical Observatories, Chinese Academy of Sciences	Dr. Yihua Yan
Ephrem Tesfeye Desta	M	Addis Ababa University, Ethiopia	Tigistu Haile (AAU)	NASA, GSFC, USA	Dr. Mei-Ching Fok
Angelikus Olla	M	Bandung Institute of Technology, Indonesia	Dr. Wahyu Srigutomo	ISEE, Nagoya, Japan	Prof. Kazuo Shiokawa
Han Ma	F	Institute of Geology/ Geophysics, Chinese Academy of Sciences	Prof. Libo Liu	Kyushu University, Japan	Dr. Huixin Liu
George Ochieng Ondede	M	Technical University of Kenya	Prof. Paul Baki and Dr. Joseph Ouko Olwendo	NASRDA, Abuja, Nigeria	Dr. Babatunde Rabiu and Dr. Daniel Okoh

Due to COVID related travel restrictions, the awardees have had to reschedule the timing of their visits. We are hopeful that they can be held before the end of June 2021. At this time, we are still finalizing the timing of the SVS visits – coordinating times with the awardees and the host institutions.

SCOSTEP thanks the SVS award committee led by Dr. John Raymond.

Congratulations to the SVS 2020 awardees!

Upcoming meetings related to SCOSTEP

Conference	Date	Location	Contact Information
SCAR —> canceled	Jul. 31-Aug. 11, 2020	Hobert, Australia	https://www.scarcomnap2020.org/
URSI General Assembly and Scientific Symposium (GASS2020) —> postponed to 2021	Aug. 29-Sep.5, 2020	Rome, Italy	https://www.ursi2020.org/
AGU Fall Meeting 2020 (mostly virtual)	Dec. 7-11, 2020	San Francisco, CA, USA	https://www.agu.org/fall-meeting
43rd COSPAR Scientific Assembly	Jan. 28-Feb. 4, 2021	Sydney, Australia	https://www.cospar2020.org/
School on Describing and Analyzing Solar Data for a better prediction of Space Weather	Feb. 14-18, 2021	Kigali, Rwanda	https://ur.ac.rw/?School-on-Describing-and-Analyzing-Solar-Data-for-a-better-prediction-of-Space
EGU General Assembly 2021	Apr. 25-30, 2021	Vienna, Austria	
IAMAS	Jul. 18-23, 2021	Busan, Korea	http://baco-21.org/2021/english/main/index_en.asp
AOGS 2021	Aug. 1-6, 2021	Suntec, Singapore	https://www.asiaoceania.org/aogs2021/public.asp?page=home.html
IAU 2021 General Assembly	Aug. 16-27, 2021	Busan, Korea	http://www.iauga2021.org/
IAGA 2021	Aug. 22-27, 2021	Hyderabad, India	http://www.iaga-iaspei-india2021.in/
The 30th IUPAP General Assembly	Oct. 20-22, 2021	Beijing, China	
AGU Fall Meeting 2021	Dec. 13-17, 2021	New Orleans, LA, USA	https://www.agu.org/fall-meeting
SCOSTEP's 15th Quadrennial Solar-Terrestrial Physics Symposium (STP-15)	Feb. 21-25, 2022	Alibag, India	
EGU General Assembly 2022	Apr. 3-8, 2022	Vienna, Austria	
COSPAR 2022	Jul. 16-24, 2022	Athens, Greece	http://www.cosparathens2022.org/
AOGS 2022	Aug. 14-19, 2022	Melbourne, Australia	
AGU Fall Meeting 2022	Dec. 12-16, 2022	Chicago, IL, USA	https://www.agu.org/fall-meeting
IUGG 2023	In July, 2023	Berlin, Germany	
AGU Fall Meeting 2023	Dec. 11-15, 2023	San Francisco, CA, USA	https://www.agu.org/fall-meeting

The purpose of the The purpose of the SCOSTEP/PRESTO newsletter is to promote communication among scientists related to solar-terrestrial physics and the SCOSTEP's PRESTO program.

<u>The editors would like to ask you to submit the following articles to the SCOSTEP/PRESTO newsletter.</u>

Our newsletter has five categories of the articles:

1. Articles— Each article has a maximum of 500 words length and four figures/photos (at least two figures/photos).
   With the writer's approval, the small face photo will be also added.
   On campaign, ground observations, satellite observations, modeling, etc.
2. Meeting reports—Each meeting report has a maximum of 150 words length and one photo from the meeting.
   With the writer's approval, the small face photo will be also added.
   On workshop/conference/ symposium report related to SCOSTEP/PRESTO
3. Highlights on young scientists— Each highlight has a maximum of 300 words length and two figures.
   With the writer's approval, the small face photo will be also added.
   On the young scientist's own work related to SCOSTEP/PRESTO
4. Announcement— Each announcement has a maximum of 200 words length.
   Announcements of campaign, workshop, etc.
5. Meeting schedule

Category 3 (Highlights on young scientists) helps both young scientists and SCOSTEP/PRESTO members to know each other. Please contact the editors if you know any recommended young scientists who are willing to write an article on this category.

TO SUBMIT AN ARTICLE

Articles/figures/photos can be emailed to the Newsletter Secretary, Ms. Mai Asakura (asakura_at_isee.nagoya-u.ac.jp). If you have any questions or problem, please do not hesitate to ask us.

SUBSCRIPTION - SCOSTEP MAILING LIST

The PDF version of the SCOSTEP/PRESTO Newsletter is distributed through the SCOSTEP-all mailing list. If you want to be included in the mailing list to receive future information of SCOSTEP/PRESTO, please send e-mail to "patricia.doherty_at_bc.edu" or "sean.oconnell.2 at bc.edu" (replace "_at_" by "@") with your name, affiliation, and topic of interest to be included.