National Webinar Reports on

The Effect of Solar Activity on Human Life of The Earth

DOI: 10.13140/RG.2.2.10105.08803.

Date: 18/09/2020 **Time: 11:00 A.M.**

Organized by
Department of Physics
Dr. H.S.Gour University, Sagar M.P. , 470003-India

Convener
Dr. Poornima Varma
Women Scientist-A and Faculty, Department of Physics
E-Mail: poornimavarma@yahoo.com

Aim / Objective of the webinar

Good morning and warm welcome to hon. Speaker sir, distinguish dignitaries and participates of India and abroad. It is my pleasure to invite all of you on virtual platform to conduct the webinar in the department of Physics, Dr. H. S. Gour Central University, Sagar M.P. in India. It is my moral duty to convey my heartfelt regards, to the founder of this university Dr. Sir H. S. Gour gee due to his significant contribution in the field of higher education. Sagar is too remote areas but University is existing in global map by their well-known better education pattern, quality research output and good signature in higher education as well as good placements in all over the world. We are very happy to see in this webinar huge of registration about 1213 by India and abroad through students, researchers, academics and faculties. The data are available in excel sheet. It means peoples are too eager to know about the effect of solar activity on human life on the earth as well as listen to our eminent speakers.

The theme of today meeting is the effect of solar activity on human life of the earth. Sun is the star at the center of our solar system and main source of life on the earth. Solar activity associated with Space Weather explained by solar flares, coronal mass ejections, high-speed solar wind, and solar energetic particles. Scientifically solar activity consists with the detail study of Sun storm, Solar Wind, Sunspots, Prominences, Solar flares, and Coronal mass ejections. These phenomena are studied and observed by various observatories. I hope today expert may be explained these features very easy way to understand students and scientific communities. The hole brahmadanda made by five elements Akash, Vayu, Agni Jal, and Prathvi. In hindu mythology the Sun is known as Suryanarayana and worship it in

many festivals as Chat puja, Makar Sankranti and many more. Biologically sunlight and darkness trigger the release of hormones in our brain. Exposure of sun light release a hormone called serotonin which boosting mood and helping a person feel better and focused. At night, darker another hormone release called melatonin for helping deep sleep. The sun is affected atmosphere, weather and all biological signatures on human behavior. All biological systems on Earth are exposed to an external and internal environment of fluctuating invisible magnetic fields of a wide range of frequencies. These fields can affect virtually every cell and circuit to a greater or lesser degree. This concept is recently Published online 2017 Jul 13. doi: 10.3390/ijerph14070770. Int J Environ Res Public Health. 2017 Jul; 14(7): 770.

The aim of this meeting is to know the recent development of solar study in India. We know that 10 major space observatories are located in India at various states. The Aryabhatta Research Institute of Observational Sciences known as ARIES is one of the best observatories in INDIA having a largest telescope in ASIA and other facilities for advance study in astrophysics, space physics, plasma physics, solar physics, environmental physics and climate physics.

Due to Covid-19 mental health issues developed rapidly seen by news day by day as well some virtual exercise is started regarding the teaching and research work with very carefully. So the main objective of this webinar is to share the new results between the scientist, researchers and faculty including the students. I hope the webinar may be helpful to improve our knowledge, mental health and to maintain our intellectual status to give the recent information and development by the eminent scientist lecture in particular field.

Thanks once again, I would like to invite Hon. V.C. Mam for key note address and to inaugurate the webinar. Over to VC mam. ……Thanks mam for your kind presence and moral support to make this meeting nice. Thanks once again.

Speaker introduction:

Prof. Wahab Uddin, Scientist-G

Former Director, ARIES

Nanital, Uttarakhand

Regarding my research work I, have visited various research laboratories, institutions, Universities and Observatories for the research plan, review meeting of the projects and to attain the seminar and symposium. In this regards some scientist and personalities are always remembering me in very pleasant manner. Dr. Wahab Uddin sir is most nice, pleasent and helping nature scientist in ARIES. During my ARIES visit in 2014 for library consultations and scientific discussions regarding the research plan helped me with too pleasant manner as well as outstanding support to make my stay too convenient and safe in ARIES with fruitful scientific discussions. I would like to pay my heartfelt thanks for accepting my request to deliver a talk in webinar during his busy schedule at present.

Dr. Wahab Uddin gee presently working as Scientist-G and actively involved in research and developmental activities in ARIES since last 36 years. His remarkable contribution is to 3.6m Devasthal Optical Telescope (DOT) and ST Radar, Nanital were successfully completed under his Directorship which was inaugurated by Honorable Prime

Minister of India Shri Narendera Modi Gee and the Honorable Prime Minister Belgium Mr. Charles Michel in the gracious presence of Honorable Minister of Science and Technology Dr. Harsh Vardhan on 30/March/2016. This project is combined project of D S T, Indian Govt. and Belgium Govt. is belspo.

His research area is Multi-wavelength study of solar eruptive phenomena i.e. solar flares, prominences, CMEs and associated phenomena to understand the energy build-up and energy release mechanisms and their space weather effect.

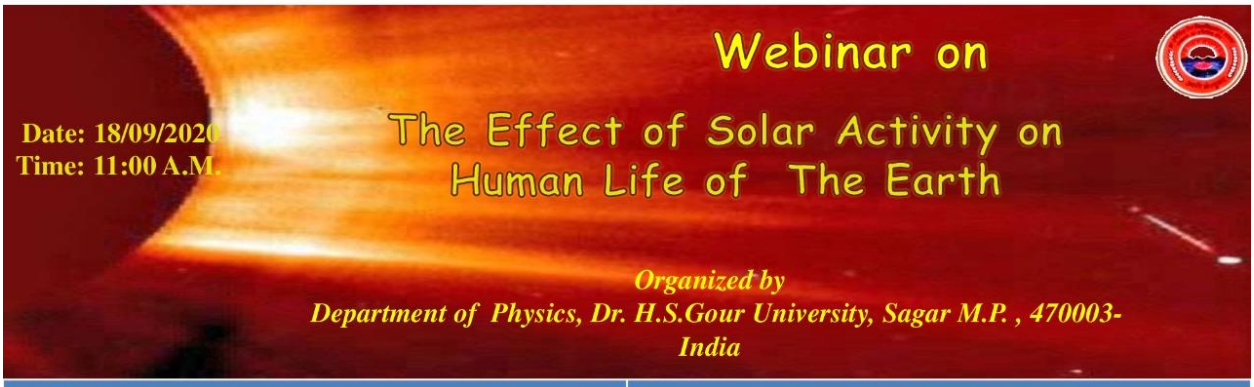
He has published more than 100 research papers in national and international reputed journals and supervised 8 PhDs.

He is Member of International Astronomical Union (IAU), Life member of Astronomical Society of India (ASI) COSPAR Associate since 2004.

Today he is talking about the effect of solar activity on human life on the earth.

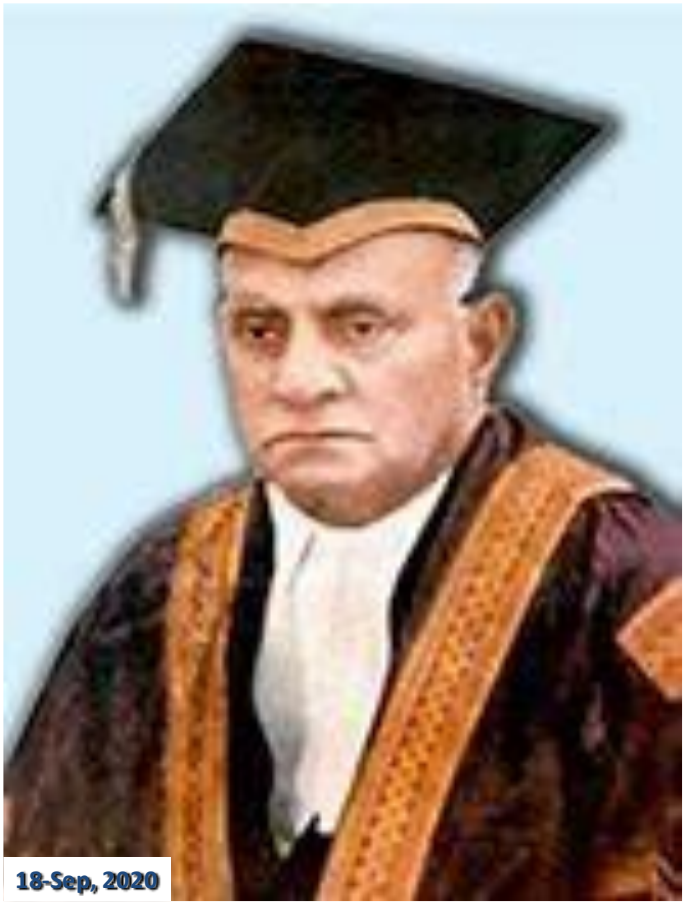
Before the start of the lecture I want to show some glimpses of ARIES by small video.

Time Schedule of the Webinar

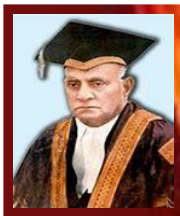


Time	Schedule
10:55 A.M.	Link open for joining of the Webinar
11:00 A. M.	Aim and Introduction of the Webinar by Convener
11:10 A.M.	Key note address and Inauguration of the Webinar by Hon. Vice-Chancellor (Madam)
11:20 A.M.	Glimpses of ARIES (Short clips)
11:30 A.M.	Speaker Talk
12:10 A.M.	Vote of Thanks by Head of the Department


Wel Come To
Deptt. of Physics
Webinar
18, Sep. 2020
Dr. H.S.G.V.V.
Sagar (M.P.)-INDIA
18-Sep, 2020



Founder
Dr. Sir Hari Singh
Gour



Dr.Sir H.S.Gour
Founder

Webinar on

The Effect of Solar Activity on Human Life of The Earth

Date: 18/09/2020
Time: 11:00 A.M.

Eminent Speaker

Prof. Wahab Uddin
Scientist-G
Former Director, ARIES
Nanital, Uttarakhand

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Webinar on

The Effect of Solar Activity on Human Life of The Earth

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Hon'bleViceChancellor I/C

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Organized by
Department of Physics
Dr.H. S.GourVishwavidyalaya,Sagar M.P.-470003INDIA

Aim/Objective of the Webinar:

The aim and object of this webinar is to focus on the recent research, which explains the human behavior effected by solar activities. We know that, the Sun is the main source of life on the earth. The sun effects the atmosphere, weather and all biological signatures of human behavior. All biological systems on Earth are exposed to an external and internal environment of fluctuating invisible magnetic fields of a wide range of frequencies. These fields can affect virtually every cell and circuit to a greater or lesser degree. Solar activity associated with Space Weather explained by solar flares, coronal mass ejections, high-speed solar wind, and solar energetic particles. The ARIES is one of the best observatory in INDIA having a largest telescope in ASIA and other facilities for advance studies in astrophysics, space physics, plasma physics, solar physics, environmental physics and climate physics The main objective of this webinar is to share the new results between the scientist, researchers and faculty including the students This webinar may be helpful to improve our knowledge, mental health and to maintain intellectual status to give the recent information and development by the eminent scientist lecture in particular field.

Eminent Speaker

Prof. Wahab Uddin

Dr. Wahab Uddin, is actively involved in research and developmental activities at Aryabhatta Research Institute of Observational Sciences (ARIES). Presently working as Scientist-G. He is working in the field of Solar Physics since last 36 years and main research work is on Multi-wavelength study of solar eruptive phenomena i.e. solar flares, prominences, CMEs and associated phenomena to understand the energy build-up and energy release mechanisms and their space weather effect. He was working as the Director (I/C) during 11/06/13 to 05/03/2017 and 01/12/2018 to 11/12/2019 at ARIES. The major projects 3.6m Devasthal Optical Telescope (DOT) and ST Radar were successfully completed under his leadership. The other major project 4m Inter National Liquid Mirror Telescope is almost competed. These are major achievements of national and international importance under his Directorship. It is worth mentioning that the Technical Activation of 3.6m DOT by the Honorable Prime Minister of India Shri Narendera Modi and the Honorable Prime Minister Belgium Mr. Charles Michel in gracious presence of Honorable Minister of Science and Technology Dr. Harsh Vardhan was done on 30/March/2016. This was a historic and proud moment for ARIES and DST, Govt of India. He was actively involved as Co-Investigator in the Thirty Meter Telescope (TMT) from ARIES, India. He worked in many International projects i.e. Indo-Us, Indo- French, Indo- Russia Indo-Japan, Indo-Bulgaria as PI and Co-PI. He is also actively Involved in national project, e.g. 2m-class National Large Solar Telescope (NLST) and Space Coronagraph proposed for Aditya-I. He has published more than 100 publications in national and international reputed journals and supervised 8 PhDs. Member of International Astronomical Union (IAU), Life member of Astronomical Society of India (ASI) COSPAR Associate since 2004.

Organizers

Prof. M.S.Tiwari

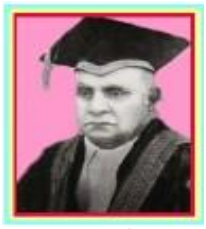
Prof. M.S.Tiwari is a retired professor presently working in the Department of Physics as scientist mentor in DST project. He has supervised many Ph.D. candidate for the Ph.D. thesis and M.Sc. students for their projects work. He has completed 10 Major projects as PI funded by ISRO, CSIR, MAPCOST, DST and UGC. His research area is ULF/VLF waves , Magnetosphere -ionosphere coupling, Multi-ions plasma, and auroral electrodynamics. He has published about 150 research papers in national , international journals and seminars symposiums.

Dr. Poornima Varma

Dr. Poornima Varma presently working as women scientist in the Department of Physics She has teaching and research experience about 25 years which includes P.G. Research and U.G. level. She has supervised Ph.D. candidate for the Ph.D. thesis and M.Sc. Students for their projects work. She has successfully completed 11 Major projects as PI and Co-PI funded by ISRO, CSIR, MAPCOST, DST and UGC. She Awarded as Young Scientist Award (National Award) by ISCA for best poster paper. Her research area is ULF/VLF waves, Magnetosphere -ionosphere coupling, Multi-ions plasma, auroral electrodynamics and Earth's Magnetospheric Phenomena . She has published about 107 research papers in national, international journals and seminars symposiums . She is the reviewers of many reputed journals of Elsevier, Springer, Willey Publications and Cambridge University Press and reviewed many research articles and papers. She has recently organized the International Webinar on "Satellite Application in Geophysics" .

Dr. Sandhya Patel

Dr. Sandhya Patel is presently working as assistant professor in the Department of Physics . She has supervised two Ph.D. candidates for the Ph.D. work and M.Sc. students for their projects work at present . She is member of Academic council as well as many administrative bodies as Girl's hostal Warden, Member of Proctorial Board and member of board of studies etc. She has teaching and research experience about 20 years which includes P.G. Research and U.G. level. She has working in the field of Material Science .



Founder
Sir H.S.Gour

Establishment Year

18 JULY 1946

Department of Physics was established in **July 1946**.

18-Sep, 2020

Prime Minister Narendra Modi and Belgian Prime Minister Charles Michel remotely activate the ARIES telescope from Brussels on 30 March 2016 at ARIES.

18-Sep, 2020

Vote of thanks:

Before the end of this beautiful scientific event, I pay my sincere thanks to our Hon. V.C. madam for her kind support, keen interest and moral boosting. I am thankful to eminent speaker of this webinar for accepting my invitation and for giving their valuable time and enhancing the knowledge of participants related to solar activities and effect of sun in human life on the earth. I am thankful to Dean of MPS, Prof. Diwakar Shukla gee, and Head, Department of Physics, Prof. Ranveer Kumar for their kind cooperation, administrative support and scientific suggestions. I also pay my sincere regards to my mentor

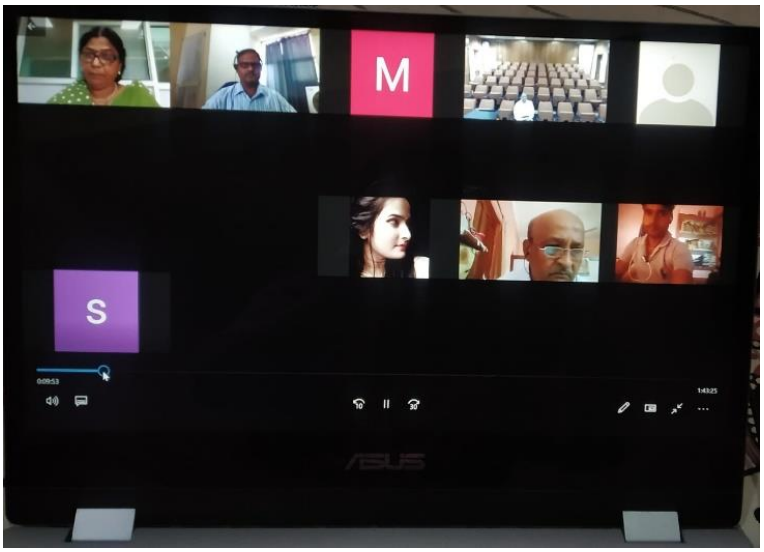
and academic guardian Prof. M. S. Tiwari gee for his moral support, scientific suggestion as well as always support in odd even situations.

I would like to pay my sincere thanks to Dr. Shail Shrivastava for her kind advice during the webinar. My sincere thanks go to Dr. Sandhya Patel for her faithful assistance as well as specially thanks go to Dr. Virendra Tiwari for his technical support from the start of this plan. I am grateful to my parents because their blessings are always with me. I am also thankful to my family members my nearest and dearest for their indoor, moral and mental supports. I also pay heartfelt thanks to all department employees for always supporting me in the departmental survivals and feel me free and confident. Specially thanks go to university administrations for their technical and officials supports. Finally, thanks to God Almighty for their kindness. Now I would like to invite Prof. Ranveer Singh for the vote of thanks on the behalf of Department of Physics.

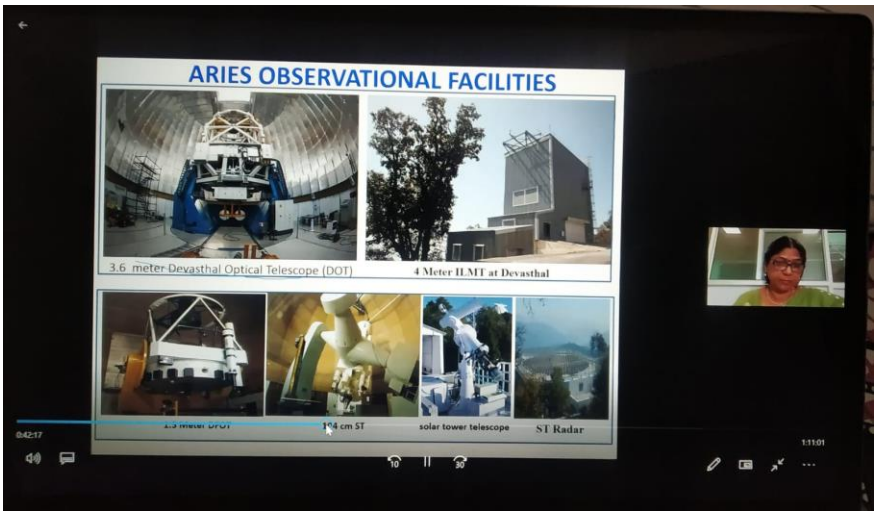
We have received excellent responses by Indian and Abroad participates through their feedback forms which are about 851 with good ratings. The data are available in excel sheet in google forms.

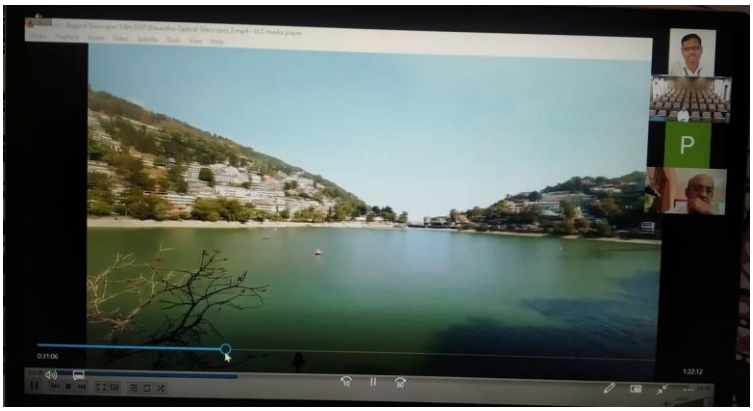
Acknowledgements: **The convener PV is thankfully acknowledged to DST, New Delhi (WOS-A Scheme) for financial assistance.**

Glimpses of online Webinar



Webinar Video
18-09-2020 (1).mp4


ARIES OBSERVATIONAL FACILITIES
3.6 meter Devasthal Optical Telescope (DOT)
4 Meter ILMT at Devasthal
1.3 meter DFOT
104 cm ST
solar tower telescope
ST Radar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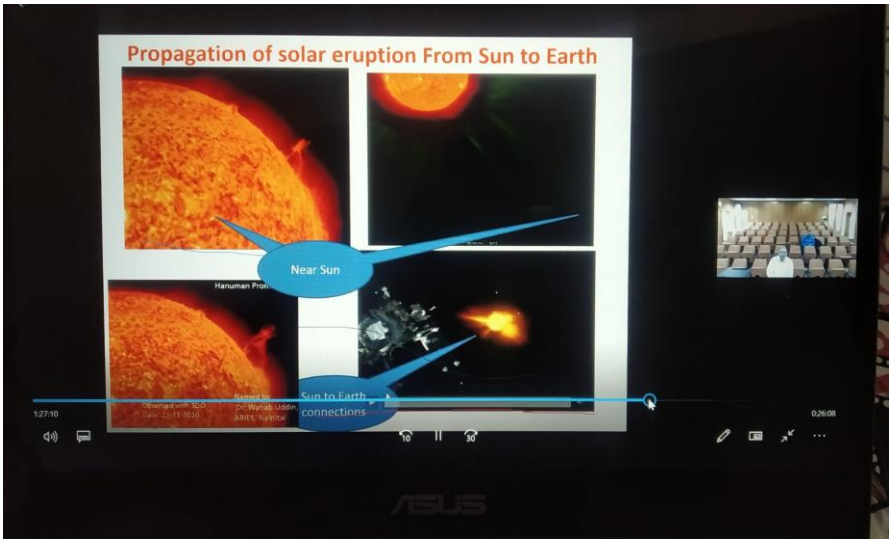
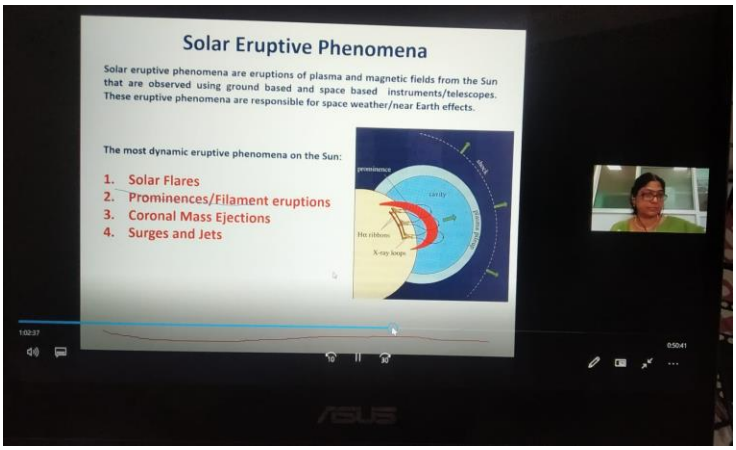
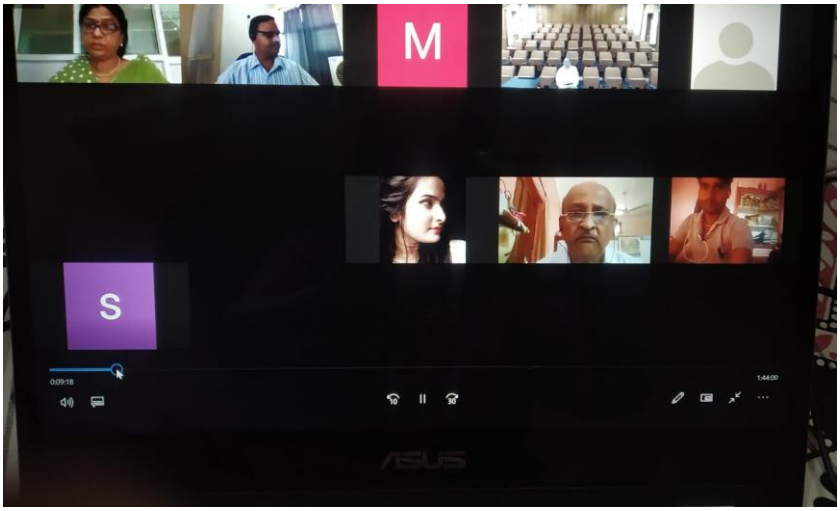
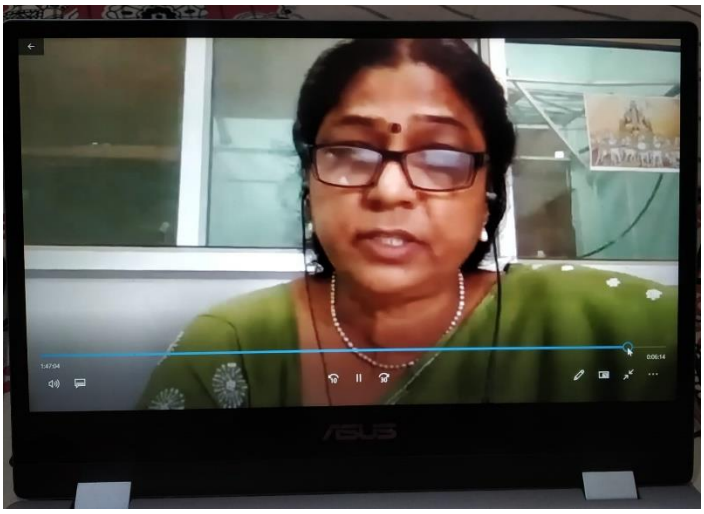

Propagation of solar eruption From Sun to Earth
Near Sun
Sun to Earth connections
1:27:10
0:26:08


Solar Eruptive Phenomena
Solar eruptive phenomena are eruptions of plasma and magnetic fields from the Sun that are observed using ground based and space based instruments/telescopes. These eruptive phenomena are responsible for space weather/near Earth effects.
The most dynamic eruptive phenomena on the Sun:
1. Solar Flares
2. Prominences/Filament eruptions
3. Coronal Mass Ejections
4. Surges and Jets
prominence
cavity
X-ray loops
1:02:37
0:50:41





Submitted by

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