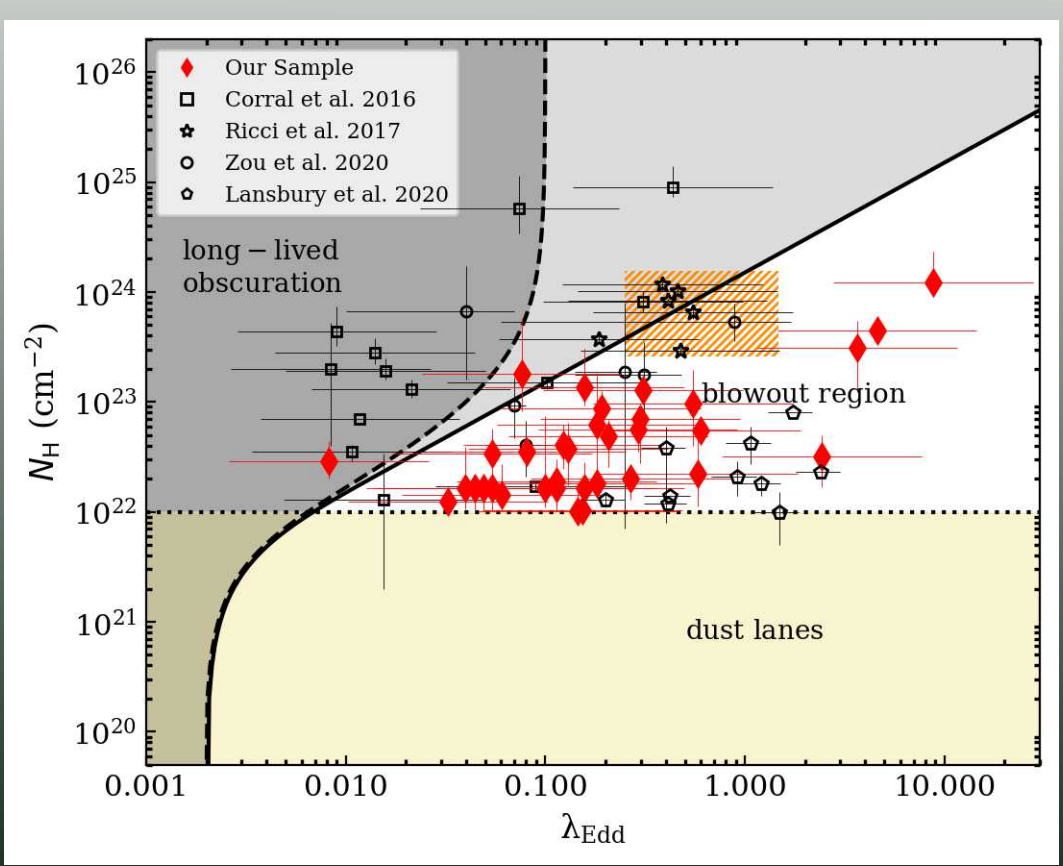
प्लेटिनम जयंती
1947 2022
PLATINUM JUBILEE

Newsletter of the Physical Research Laboratory

THE SPECTRUM



The NH versus Eddington ratio plot showing different evolutionary phases of AGNs found in the studied sample DOGs.

May 2024

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The Author

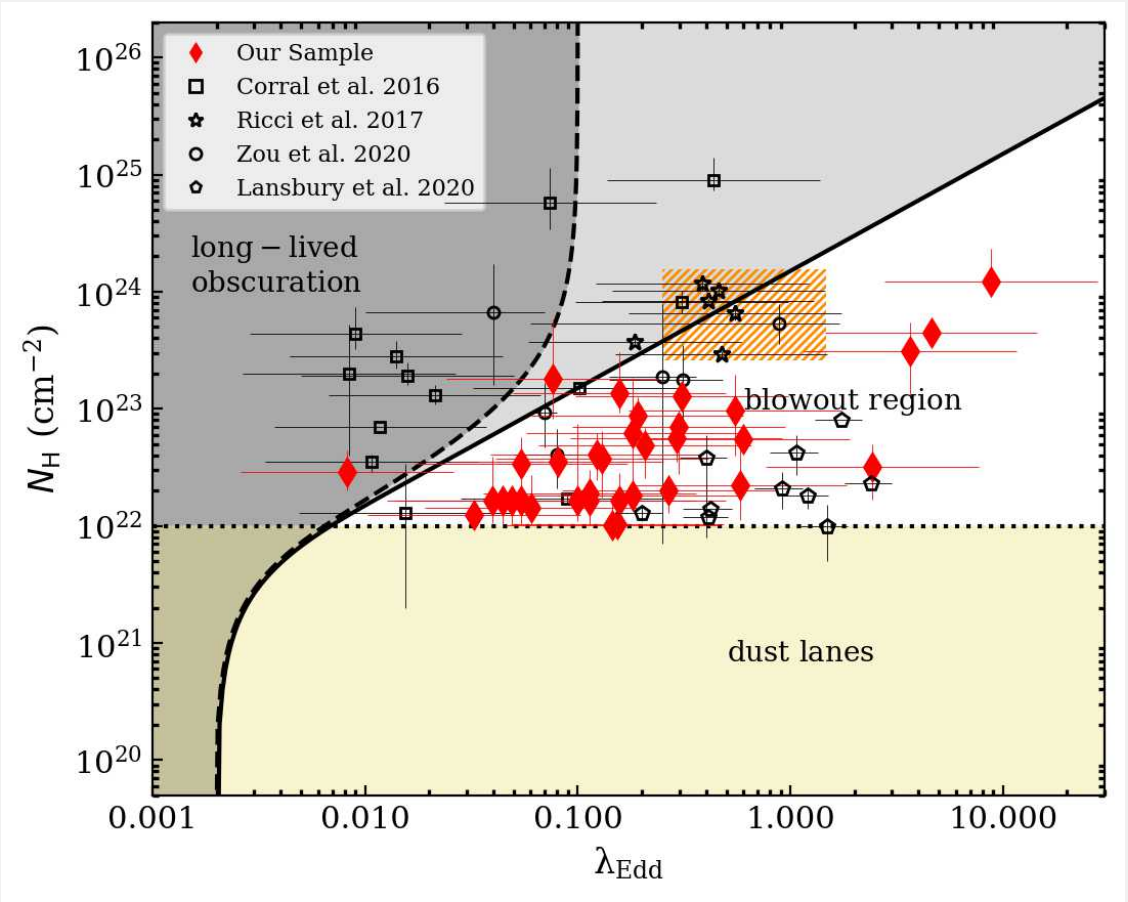
Abhijit Kayal

X-ray spectral properties of dust-obscured galaxies in the XMM-LSS field

(***Abhijit Kayal***, *Veeresh Singh*)

The powerful emission from the Active Galactic Nuclei (AGNs) often gets obscured by the gaseous and dusty material present around it, making their detection difficult, especially at higher redshifts (z). With an aim to study and characterize the population of obscured AGN hosted in high-z dust-obscured galaxies (DOGs), we performed X-ray spectral study of a sample of 34 DOGs ($0.59 \leq z \leq 4.65$) detected in an extragalactic field named XMM-LSS. To improve the spectral quality of each of our sample sources, we have combined all the available archival X-ray data obtained from the X-ray observatories XMM-Newton and Chandra. In our study, we find that X-ray emission in DOGs arises due to AGN activity, and their X-ray spectra can be best-fitted with either a simple absorbed power law or with a physically-motivated model assuming the existence of circumnuclear obscuring torus. Our study demonstrates that all our sample DOGs host X-ray luminous AGNs, with a substantial fraction (17.6 per cent) of them being heavily obscured ($N_H > 10^{23}$ cm^{-2}). The N_H versus Eddington ratio plot infers that our sample consists of a heterogeneous population that includes AGNs belonging to an early evolutionary phase during which accretion and obscuration peaks and also AGNs belonging to an intermediate or late evolutionary phase during which radiative feedback from the dominant AGN blows away surrounding obscuring material.

Source/Reference of the Work: *https://doi.org/10.1093/mnras/stae1191*



The N_H versus Eddington ratio plot showing different evolutionary phases of AGNs found in the studied sample DOGs.

The Author

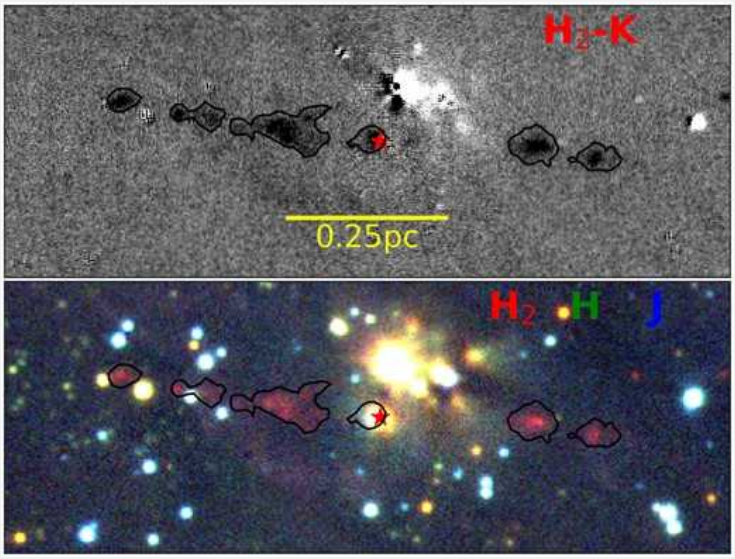
Manash Samal

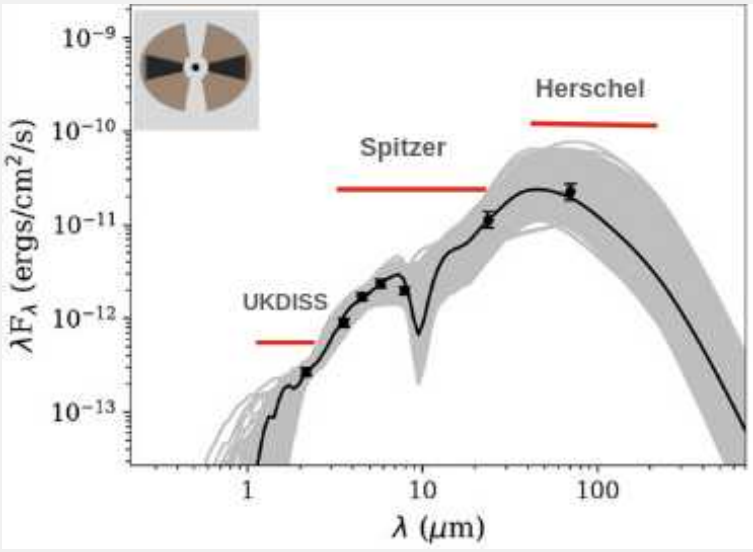
Search for jets from extremely young stars with the aid of shocked molecular emission at 2.12 micron

*(Manish Chauhan, **Manash Samal**, Anandmayee Tej, Dirk Froebrich)*

Jets and outflows are signposts of stellar birth. They allow stars to lose angular momentum, thus, preventing stars from spinning out of control while they grow. Near-infrared emission at 2.12 μm (H2 ν = 1–0 S(1)) is one of the ideal tracers to search for shock-excited jets and knots from young sources. This line is an excellent tracer of hot (T ~ 2000 K) and dense (n ≥ 1000 cm^{-3}) gas excited by the fast shocks (10-100 kms^{-1}) caused by the interactions of jets with the surrounding interstellar medium. In this work, using the UKIRT Wide Field Infrared Survey for H2 (UWISH2) at 2.12 μm, 127 outflows were identified in molecular cloud complexes Vulpecula OB1 and IRDC G53.2, covering 12 square degrees of the Galactic plane. Using multiwavelength data sets from 1.2 to 70 μm, 79 young stellar objects (YSOs) were proposed as potential driving sources, where ~79 percent are likely Class 0/I protostars, 17 percent are Class II YSOs, and the remaining 4 percent are Class III YSOs. Protostars represent one of the earliest stages of stellar evolution with age typically around 0.1 Myr. Chains of H2 emission knots associated to a jet/outflow are indicative of the fact that the driving YSO has undergone episodic ejection, likely due to underlying variability in the mass accretion. Thus, the typical duration between consecutive knots is a tool to understand the likely period between the episodes of the ejection. From the knot spacing, a typical ejection frequency of ~1.2 kyr were derived for the identified protostars. The physical parameters for a set of bright driving sources were obtained by performing radiative transfer modelling to the observed spectral energy distributions (SEDs), which suggest that the jets were driven by intermediate-mass young stars. Various observed trends between the jet properties and the corresponding driving sources were obtained and discussed. How the obtained results and the identified jet-bearing protostellar sample will pave the way to understand many aspects of outflows with future high-resolution observations, are also discussed.

Source/Reference of the Work: *https://doi.org/10.1093/mnras/stae846*





Left Panel: Example of a bipolar jet identified from a baby star in Vulpecula OB1 cloud. The top image is the continuum-subtracted (H2-K) image, while the bottom panel shows the JHH2 colour-composite image. The shocked emissions associated are shown by contours The location of the driving source is marked by a red star. Right Panel: Observed SED of a jet driving protostar, fitted with a set of radiative transfer models composed of different combinations of central protostar, disk, outflow, and envelope parameters. The black dots are the observed photometric data points from various infrared surveys. The black SED corresponds to the best-fitting model, while the grey SEDs are a set of good models.

5th CNIT Division Nukkad – Chai Pe Byte on "Identify Phishing Email"

The fifth CNIT Division Nukkad – Chai Pe Byte on Identify Phishing Email was held on April 05, 2024 in hybrid mode during 15:00 hrs to 16:30 hrs. There were 34 participants in the session. In the session, 80% discussion was in Hindi and 20% discussion was in the English. The main objective of the initiative "Chai Pe Byte" is to share the experiences & knowledge, understand users' IT related problems, find possible solutions and strengthen the overall bonding between CNIT Division and PRL colleagues, which in turn will improve the overall functioning of PRL IT services/facilities.

Mr. Jigar Raval welcomed all participants and presented on how to identify phishing email. The talks covers basic email technology with live demonstration of different methods of sending spam/phishing email. He demonstrated how the spammers spoof the email address parameters like Real Name, Sender Email Address etc. He also presented email filtering mechanism implemented on PRL email along with its functions by live examples.

Following are the overall outcome of the session.

1. There was request to modify the SPAM tag line of PRL email server to read the subject clearly. CNIT team has immediately implement the suggestion on live setup and demonstrated the successful implementation.

2. There was discussion on how to check email headers like SPAM score and Sender's Email Server detail.

3. There was brief discussion on different SMS short code and their usage. This helps to identify the phishing/spam SMS.

CNIT team sincerely thank Director, PRL, for his constant guidance and motivation to initiate such activities in different IT verticals. We thank Registrar, PRL, and Dean, PRL for their support. We thank Prof. Bijaya Sahoo, Prof. Varun Sheel and Prof. Namit Mahajan for their guidance and support in all the IT related activities and projects. From the bottom our hearts, we thank all the participants who enthusiastically participated, provided their valuable feedback and encouraged us to conduct similar events in future. We also thank all the PRL users for their cooperation and help.

The report is also available on CNIT Division Website under Intranet Access URL - https://www.prl.res.in/prl-eng/cc/intranet/chaipebyte.

PRL Amrut Rajbhasha Vyakhyaan - 11

पीआरएल अमृत राजभाषा व्याख्यान (पर्व)

PRL AMRUT RAJBHASHA VYAKHYAAN (PARV)

डॉ. बी.आर. अंबेडकर जयंती समारोह के अवसर पर, "पीआरएल अमृत राजभाषा व्याख्यान (PARV)" का 11वां व्याख्यान 09 अप्रैल, 2024 को के. आर. रामनाथन सभागार में आयोजित किया गया। व्याख्यान हाइब्रिड मोड में था, इस अवसर पर प्रख्यात वक्ता श्री प्रवीण प्रकाश अंबष्ठ अपने व्याख्यान के लिए ऑनलाइन शामिल हुए।
On the occasion of celebration of Dr. B. R. Ambedkar Jayanti, the 11th lecture of "PRL Amrut Rajbhasha Vyakhyaan (PARV)" was held on April 09, 2024 at K. R. Ramanathan Auditorium. The vyakhyan was in hybrid mode, in which, the eminent speaker for the occasion was Shri. Praveen Prakash Ambashta, who joined online for his lecture.

श्री. प्रवीण प्रकाश अंबष्ठ वर्तमान में मुख्य आयुक्त दिव्यांग जन, में उप मुख्य आयुक्त के रूप में कार्यरत है, वह एक पूर्व संकाय सदस्य हैं, जिन्होंने सचिवालय प्रशिक्षण और प्रबंधन संस्थान और रक्षा मुख्यालय प्रशिक्षण संस्थान में पूर्णकालिक सेवा की, उन्होंने देश के प्रमुख केंद्रीय प्रशिक्षण प्रतिष्ठानों में अतिथि संकाय के रूप में भी कार्य किया है।
Shri. Praveen Prakash Ambashta is presently working as a Deputy Chief Commissioner for PwD, earlier served as a faculty member at Institute of Secretariat Training and Management, full time in Defense Headquarters Training Institute. He has also worked as guest faculty in the major Central Training Establishments of the country.

व्याख्यान का शीर्षक था "संवैधानिक दिशा–निर्देश: भारत के संविधान के साथ लोक सेवा"|
The lecture was entitled "संवैधानिक दिशा–निर्देश: भारत के संविधान के साथ लोक सेवा"|

डॉ. बी.आर. अंबेडकर जयंती समारोह कार्यक्रम की शुरुआत पीआरएल के गणमान्य व्यक्तियों द्वारा पीआरएल प्रशासन लॉन में वृक्षारोपण के साथ हुई और उसके बाद ग्रुप फ़ोटो ली गई। के. आर. रामनाथन सभागार में सत्र की शुरुआत दीप प्रज्वलन और भारत रत्न डॉ. बी.आर. अंबेडकर की तस्वीर पर पुष्पांजलि अर्पित करके हुई।
To mark the birth anniversary of Dr. B. R. Ambedkar, the programme started with tree-plantation by the dignitaries at PRL Admin lawn followed by group photograph. At K.R. Ramanathan Auditorium, the session was initiated with the lighting of the lamp and offering a floral-tribute to Bharat Ratna Dr. B. R. Ambedkar.

व्याख्यान के दौरान श्री. प्रवीण प्रकाश अंबष्ठ ने जानकारी दी की भारत एक संप्रभु, समाजवादी, धर्मनिरपेक्ष, लोकतांत्रिक गणराज्य है जिसमें शासन क़ानून का होता है, न कि कुछ व्यक्तियों का। कानून के शासन का मतलब विवेकाधीन शक्तियों का अभाव नहीं है, बल्कि केवल यह है कि शक्तियां पूर्ण या निरंकुश नहीं होनी चाहिए। उन के नियंत्रण, संतुलन और समीक्षा का प्रावधान होना चाहिए। इसलिए, भारत जैसे नियम–आधारित समाज में लोक सेवा कानूनों के अनुप्रयोग और जहां भी आवश्यक हो, लोक सेवक में निहित विवेकाधीन शक्तियों का उपयोग पर आधारित है|
During the lecture, Shri. Praveen Prakash Ambashta informed that India is a sovereign, socialist, secular, democratic republic that requires rule of law and not of a few individuals. The rule of law does not mean absence of discretionary powers, but only that the powers should not be absolute. There should be provision for checks, balances and review. Therefore, public service in a rule-based society like India is based on the application of laws and the use of discretionary powers vested in the public servant, wherever necessary.

उन्होंने बताया कि यह आवश्यक है कि जो लोग सार्वजनिक सेवा से संबंधित हैं, उन्हें शासन के संवैधानिक ढांचे, जैसे राज्य की संप्रभुता और दायित्व, नागरिकों के अधिकार और कर्तव्य, राज्य नीति के निर्देशक सिद्धांत, राज्य के अंग, द्विसदनीय प्रणाली, केंद्र–राज्य संबंध और राज्य के

अंगों के बीच तथा केंद्र और राज्य के बीच शक्तियों का वितरण, इत्यादि के बारे में सामान्य समझ हो।
He further explained that it is essential that those who are concerned with public service should understand the constitutional framework of governance, such as sovereignty and obligations of the State, rights and duties of citizens, Directive Principles of State Policy, organs of State, bicameral Houses, Centre-State relations and there should be a common understanding regarding the distribution of powers, etc., among the organs of the state and between the Center and the state.

आकर्षक प्रश्नोत्तर के माध्यम से श्रोताओं को नए दृष्टिकोण प्राप्त हुए और विषय के बारे में और अधिक जानकारी प्राप्त हुई। राष्ट्रगान और धन्यवाद ज्ञापन के साथ कार्यक्रम का समापन हुआ।
Listeners gained new perspectives and learned more about the subject through an engaging Q&A session. The program was concluded by vote of thanks and National Anthem.

Youtube Link:
https://www.youtube.com/watch?v=wV1zF3n54z4&list=PL12xjTGd3IdgQXLe9_O8ygpF92DY2hj6P&index=11

Celebration of Ambedkar Jayanti at Various PRL Campuses

The celebration of Dr. B. R. Ambedkar Jayanti was organized at all Campuses of Physical Research Laboratory (PRL) Tuesday, the 9th April, 2024. As per the mandates of Department of Space / GoI, a special lecture was organized in collaboration with PRL Amrut Rajbhasha Vyakhyaan (PARV) at K. R. Ramanathan Auditorium in hybrid mode.

Shri. Praveen Prakash Ambashta, Deputy Chief Commissioner for PwD, Office of Chief Commissioner for Persons with Disabilities, New Delhi was the eminent speaker for the occasion. The PRL members of Mt. Abu and Udaipur Solar Observatory joined online through WebEx. The lecture was streamed live through YouTube. The contractual staffs of PRL were also invited to attend the Vyakhyaan.

The function was initiated with the Tree Plantation followed by the group photograph.
Further, in Auditorium, the lamp-lighting was done and the floral tribute was paid to the portrait of Bharat Ratna Dr. B. R. Ambedkar.

Shri Ambastha delivered an excellent online Vyakhyaan on " संवैधानिक दिशा–निर्देश : भारत के संविधान के साथ लोक सेवा ".

The programme ended with the national anthem followed by vote of thanks.

A Complimentary Lunch arrangements were made at all four PRL Campuses, including the Thaltej Campus; Udaipur Solar Observatory and Mt.Abu Infrared Observatory to celebrate the occasion. All PRL members including contractual members were invited for Lunch.

Glimpses from the event

Celebration of Ambedkar Jayanti in PRL Reserved Class Employees Association, Main Campus, Ahmedabad

The 133rd Birth Anniversary of Bharat Ratna Dr. B R Ambedkar was celebrated at Reserved Class Employees' Association Office at PRL Main Campus on 14.04.2024 (Sunday). The programme was started with lighting of lamp.Prof. Anil Bhardwaj, Director, PRL, Prof. D. Pallam Raju, Dean, PRL and Prof. R. D. Deshpande, Registrar, PRL and other members paid floral tribute to the great sculptor of Indian Constitution. Prof. Anil Bhardwaj, Director, PRL spoke about the work of Dr. Ambedkar for drafting of constitution and betterment of economically and socially backward class living in India. Prof. D Pallam Raju, Dean, PRL has shared his thought on vision of Dr. Ambedkar. Prof. R D Deshpande, Registrar, shared his views on Dr. Ambedkar's ideology. The programme was co-ordinated by PRL Reserved Class Employees' Association.

Special Talk on Swachhta Pakhwada-2024

A special lecture was organized during Swachhta Pakhwada-2024 on 18.04.2024. This lecture was given by Mrs. Pankti Pandey, Founder and CEO, Project Kanchan (A Climate Conservation and regeneration Company), on the topic “Behavioural Changes towards Sustainable Lifestyles”.
While speaking on this important issue to the PRL members, she explained the harmful effects of household waste on the environment and how we are adopting modernity in every aspect of life but have been throwing our household waste on the roads for years. As a solution to this serious problem, she gave suggestions based on her experience like Waste Audit, how one can adopt Zero Waste life by auditing one's household waste. She motivated PRL members to change their lifestyle and lead a sustainable lifestyle.
Mrs. Pankti Pandey has also recently been awarded with the Green Champion Award by the Indian Prime Minister for her speeches and inspiring people to create awareness and lead a zero-waste lifestyle.

Glimpses of Swachhta Concluding Session on 18.04.2024

PRL Ka Amrut Vyakhyaan - 91

The 91th PRL Ka Amrut Vyakhyaan was delivered by Prof. Rajat Moona (Director and Sudhir K. Jain Chair Professor Computer Science and Engineering Indian Institute of Technology Gandhinagar), on 26 April, 2024. He delivered the Vyakhyaan on the very pressing topic of recent times, i.e. the data security. The title of the Vyakhyaan was "Data Security for end-to-end applications in distributed applications".

Data security is the process of safeguarding digital information from being corrupted, theft, or unauthorised access. With the extent to computerization, often data is collected in the field while it is processed at a central station. During the process, data can get into problems if the proper data security is not taken into account. During the Vyakhyaan, Prof. Moona started the talk with various data security issues one can face with simple examples such as e-payment and data storage over cloud. Then talked about the end-to-end security of data with various security goals such as data confidentiality, integrity or availability. In particular, he stressed that authentication such as fingerprint or face recognition requires the biometric to be captured at the person end but to be verified at the server end to ensure the data security. He highlighted that solutions such as camera-based recording to detect frauds are not sufficient and discussed with various case studies that an end-to-end security protocol is the way forward to secure the data. In the end of the Vyakhyaan, he also answered several key questions related to data security, raised by the audience.

YouTube Link: *https://youtube.com/live/VRu_Lja77-4?feature=share*

Swachhta Pakhwada –2024 at USO/PRL, Udaipur

On the occasion of Swachhta Pakhwada 2024 various activities have been carried out at USO/PRL, Udaipur. The Swachhta Pakhwada activities initiate with Swachhta Pledge on 01.02.2024 at USO Main Campus. All the Staff members, Research Scholars, PDFs and Trainees were actively participated in this activity.

Apart from Swachhta Pledge the following other activities have been organized during Swachhta Pakhwada 2024:

1. **Swachhta Abhiyan**: On the occasion of Swachhta Pakhwada 2024 a cleanliness drive was conducted by all Staff members, Research Scholars, PDF, Trainees and Contractual Workers. Prof. Shibu K. Mathew (Head, USO) and Mr. Abhishek (Member, Swachhta Pakhwada Committee) led the cleanliness drive in the campus.

2. **Signature Campaign**: A Signature Campaign was organized at the main campus of USO. All the Staff Members, Research Scholars, PDF and Trainees had participated in this Signature Campaign. The said signature campaign was inspired by the theme of Swachhta Pakhwada 2024, i.e. "***Swachhta is everyone's business***".

3. **Sapling distribution**: On the Occasion of Swachhta Pakhwada to keep the environment clean Saplings were distributed among all the Staff Members, Research Scholars, PDFs and Trainees.

4. **Selfie Point** : A selfie stand was established in the Main Campus of USO. in which all the Staff Members, Research Scholars, PDF and Trainees took photographs and pledged to adopt the Swachhta pledge and also to participate actively in Swachhta Mission.

5. **Fogging & Fumigation**: Under Swachhta Pakhwada 2024, Fogging and Fumigation work was carried out in all the premises of USO, which will help in effectively eliminating the targeted pests, mosquitoes, etc.

PRL Monthly Publications Digest

Astronomy & Astrophysics Division [1]

1. Manish Chauhan, Manash Samal, Anandmayee Tej, Dirk Froebrich, 2024, Search for protostellar jets with UWISH2 in the molecular cloud complexes Vulpecula and IRDC G53.2, Monthly Notices of the Royal Astronomical Society, Date of Publication: 09/04/2024, Impact Factor: 5

Atomic Molecular and Optical Physics Division [1]

1. Harshith Bachimanchi, Saumya J. Sarkar, M. Ebrahim-Zadeh, and G. K. Samanta, 2024, Harnessing nonlinear frequency upconversion of Talbot effect with flexible Talbot lengths, Optics Express 32 , 15967-15977 (2024)., Date of Publication: 17/04/2024, Impact Factor: 3.8

Geosciences Division [1]

1. Bhattu, D., Tripathi, S.N., ..., Rastogi, N., ..., et al., 2024, Local incomplete combustion emissions define the PM2.5 oxidative potential in Northern India, Nature Communications, 15, 3517, Date of Publication: 26/04/2024, Impact Factor: 16.6

Space & Atmospheric Sciences Division [2]

1. Kazuo Shiokawa, Daniel Marsh, Duggirala Pallamraju, Spiros Patsourakos, Nicholas Pedatella, M. Venkat Ratnam, Eugene Rozanov, Nandita Srivastava, S. Tulasiram, 2024, Special issue of SCOSTEP's 15th Quadrennial Solar-Terrestrial Physics Symposium (STP-15), Journal of Atmospheric and Solar-Terrestrial Physics, Date of Publication: 12/04/2024, Impact Factor: 2.1

2. Mansi Gupta, Nidhi Tripathi, T G Malik & L K Sahu, 2024, A review on air–sea exchange of reactive trace gases over the northern Indian Ocean, Journal of Earth System Science, Date of Publication: 09/04/2024, Impact Factor: 1.9

Planetary Sciences Division [2]

1. K Durga Prasad, Chandan Kumar, Sanjeev K. Mishra, P Kalyana S. Reddy, Janmejay Kumar, Tinkal Ladiya, Arpit Patel, Anil Bhardwaj, 2024, Characterisation of Front-End Electronics of ChaSTE experiment onboard Chandayaan-3 lander , Journal of Spacecraft Technology, Date of Publication: 29/04/2024, Impact Factor:

2. K. Durga Prasad, Dibyendu Misra, Amitabh, Megha BHatt, G. Ambily, Sachana Sathyan, Neeraj Srivastava, Anil Bhardwaj, 2024, Chandrayaan-3 alternate landing site: pre-landing characterization, CURRENT SCIENCE, Date of Publication: 10/04/2024, Impact Factor: 1.1

Theoretical Physics Division [2]

1. Melissa van Beekveld, Abhinava Danish, Eric Laenen, Sourav Pal, Anurag Tripathi, Chris D. White, 2024, Next-to-soft radiation from a different angle, PHYSICAL REVIEW D, Date of Publication: 08/04/2024, Impact Factor: 5

2. Supriya Pan, Kaustav Chakraborty, Srubabati Goswami, 2024, Sensitivity to CP discovery in the presence of Lorentz invariance-violating potential at T2HK/T2HKK, The European Physical Journal C, Date of Publication: 03/04/2024, Impact Factor: 4.4

Awards & Honours

(1) **Prof. J. P. Pabari**, Professor, Planetary Sciences Division of PRL has been **appointed as a member of the Research Advisory Council (RAC)** of Dr. Subhash University, Junagadh (Gujarat).

(2) **Prof. Abhijit Chakraborty**, Senior Professor, Astronomy & Astrophysics Division of PRL has received the prestigious **Annual Astronautical Society of India (ASI) Award 2022** in the distinguished category of **"Space Science & Applications"**

(3) **Prof. Varun Sheel**, Senior Professor, Planetary Sciences Division of PRL has been elected as a member of the **International Commission on Planetary Atmospheres and their Evolution (ICPAE)** for the duration of 2024-2027.

(4) "Chandrayaan-3 alternate landing site: pre-landing characterization" authored by K. Durga Prasad, Dibyendu Mishra, Amitabh, Megha Bhatt, G. Ambily, Sachana Sathyan, Neeraj Srivastava, Anil Bhardwaj **has been highlighted as a cover story in Current Science Vol 126, No. 7.** on 10 April 2024.

The article can be accessed from: 10.18520/cs/v126/i7/774-780

(5) **Prof. Anil Bhardwaj**, Director, PRL has been awarded **COSPAR Vikram Sarabhai Medal for the year 2024.**

(6) **PRL** has been awarded the 2023 **"Swachhata Pakhwada Award"** by the **Department of Space (DOS)** under the category of Autonomous bodies.

Visitors

1. Prof. A. P. Dimri, FNA, FNASc., Director, Indian Institute of Geomagnetism, Mumbai also visited many labs in PRL and interacted with PRL faculties & research fellows.

2. Ms. Anantshree Bhatt, a M.Sc. Physics student from Doon University, Dehradun, Uttarakhand is visiting PRL from 12 March 2024 to 11 May 2024 to work with Prof. Srubabati Goswami, Senior Professor of Theoretical Physics Division.

3. Dr. Ragav Ramachandran, Ex-Post Doctoral Fellow of PRL is visiting PRL from 28 March 2024 to 31 May 2024 for carrying out experiments with Prof. Bhalamurugan Sivaraman, Professor of Atomic, Molecular & Optical Physics Division.

4. Shri. Rajkumar Beniwal, Vice Chairman & CEO of Gujarat Maritime Board, Gandhinagar visited Registrar, PRL on 10 April 2024.

5. Dr. Torsten Langer of M/s. PicoQuant, Germany visited PRL Ahmedabad on 10 April 2024 in connection with Scientific discussion on Time to Digital Convertor procured from PicoQuant and interaction with Scientists and Research scholars.

6. Shri. Somanath S, Secretary, DOS & Chairman, ISRO visited PRL on 17 April 2024.

7. Prof. Rajat Moona, Director, Indian Institute of Technology Gandhinagar visited PRL on 26 April 2024.

8. Mr. Salar Zambrano Aldemar Leonardo of M/s. Thermoscientific Co., Austria visited PRL, Ahmedabad on 29 April 2024 in connection with Scientific Discussion and interaction with Scientist on the new analytical instrumentation of Mineralogy and its applications .

Heartily welcome to our new members

NAME: Dr. Sunil Chandra

DESIGNATION: Assistant Professor

DATE OF JOINING: 02.04.2024

DIVISION/AREA: Astronomy & Astrophysics Division, Mount Abu

NAME: Dr. Ajay Dev Asokan

DESIGNATION: Post Doctoral Fellow-SERB-NPDF

DATE OF JOINING: 10.04.2024

DIVISION/AREA: Geosciences Division

NAME: Dr. Tanya Sharma

DESIGNATION: Post Doctoral Fellow

DATE OF JOINING: 30.04.2024

DIVISION/AREA: Atmoic, Molecular & Optical Physics Division

Superannuation

Name of the employee	Dr. (Mrs.) Nishtha Anilkumar
Designation at the time of superannuation	Library Officer-F
Date of Birth	30.04.1964
Date of Joining PRL	01.08.1997
Date of Superannuation	30.04.2024

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