



পশ্চিমবঙ্গ পশ্চিম বঙ্গাল WEST BENGAL

25AA 960587

UMBRELLA MEMORANDUM OF UNDERSTANDING

BETWEEN

SL,NO, 30

**TEZPUR UNIVERSITY
NAPAAM, TEZPUR, ASSAM 784028**

AND

**TRIPURA UNIVERSITY
SURYAMANINAGAR, AGARTALA, TRIPURA, 799022
AND**

THE UNIVERSITY OF BURDWAN, BURDWAN-713 104, WEST BENGAL.

This Agreement made and entered into on this 22nd day of October 2020, between THE UNIVERSITY OF BURDWAN, RAJBATI, BURDWAN, WEST BENGAL 713104, INDIA (hereinafter called "BU" which expression shall where the context so admits include its successors and permitted assignees) with its having administrative office at Rajbati, Burdwan 713 104, West Bengal of the one part, AND TEZPUR UNIVERSITY, NAPAAM, TEZPUR, ASSAM 784028, INDIA (hereinafter called "TEZU" which expression shall where the context so admits include its successors and permitted assignees) and the other part, AND TRIPURA UNIVERSITY, SURYAMANINAGAR, AGARTALA, TRIPURA, 799022, INDIA (hereinafter called "TU" which expression shall where the context so admits include its successors and permitted assignees) and the other part.

*For facilitating
Research under STRIDE, UGC Project*

The parties will discuss in the fields of common research interests and allied activities between the three institutions, for long-term collaboration for promotion of students' interests development of competencies and quality research in cutting edge areas in accordance with the provisions contained in the Guidelines of STRIDE Project, UGC.

AND WHEREAS the "BU", established on 15th June 1960 by Govt. of West Bengal vide Act No. XXIX of 1959 and recognized by University Grants Commission (under Section 12B of the UGC Act, 1956) at its Department of Commerce is involved in studies on various disciplines of **AND WHEREAS** it has been considered expedient to agree in writing to participate jointly in the projects requiring expertise and logistics from both the partnering parties.

1.0 PREAMBLE

Whereas, "THE UNIVERSITY OF BURDWAN (BU)" is one part and "TEZPUR UNIVERSITY (TEZU)" and "TRIPURA UNIVERSITY (TU)" are the other, all are parties to this MoU:

Whereas, "TEZPUR UNIVERSITY (TEZU)" is a leading University in Assam engaged in teaching and research in different fields of knowledge and learning and has brief competencies on the area. And has competencies and expertise on the proposed area of collaboration

Whereas, "TRIPURA UNIVERSITY (TU)" is a leading University in Tripura engaged in teaching and research in different fields of knowledge and learning and has brief competencies on the area. And has competencies and expertise on the proposed area of collaboration

Whereas, "THE UNIVERSITY OF BURDWAN (BU)" is a leading University in West Bengal engaged in teaching and research in different fields of knowledge and learning and has brief competencies on the area and has competencies and expertise on the proposed area of collaboration

All the parties are entering into this MoU for Research and Academic Collaboration in respect of taking part jointly in a research project under "STRIDE" of the University Grants Commission, India. The parties have discussed about their common research interest and submitted a project proposal to the University Grants Commission under the scheme named "STRIDE"

2.0 OBJECTIVES OF THE MOU

- a) Joint collaboration in Research and Academic fields under "STRIDE-III" of the University Grants Commission, India.
- b) Development of competencies and expertise on the proposed area of collaboration
- c) Improvement in the areas of common research of interest.

3.0 PROPOSED MODES OF COLLABORATION

(a) As per understanding among them following steps have been (or will be) initiated for common interest:

(i) **The name of the project is entitled as: Socially Responsible Business Practices: Analysis of the Indian Scene.**

(ii) The said project, if accepted by the University Grants Commission, will be lead (Principal Investigator, herein after called as PI) by Professor Santanu Kumar Ghosh of the Department of Commerce of the University of Burdwan.

(iii) Co-investigators are:

Sl No	Name of Co-investigators
1	Prof. Arindam Das of the Department of Commerce of the University of Burdwan
2	Dr. Arindam Laha of the Department of Commerce of the University of Burdwan
3	Dr. Som Sankar Sen of the Department of Commerce of the University of Burdwan
4	Dr. Sumit Kumar Maji of the Department of Commerce of the University of Burdwan
5	Dr. Manidipa Das Gupta of the Department of Commerce of the University of Burdwan
	and
6	Dr Santi Gopal Maji of the Department of Commerce of Tezpur University, Assam (On lien from NEHU as Assistant Professor w.e.f. 12.12.2019 to 11.12.2021)
	and
7	Dr. Subir Kumar Sen of the Department of Commerce of Tripura University, Tripura

(b) Steps of Collaboration:

(i) The Department of Commerce of the University of Burdwan will be the Nodal Centre. Tezpur University and Tripura University will be two Research Station associated with the Nodal Centre in respect of the concerned project.

(ii) The financial expenses to run the activities of the Nodal Centre at The University of Burdwan will be borne by all three participating institutions. The common costs and the proportion of responsibility to be shared by each institution will be identified by the PI and the Co-PIs. Here, the expenses and costs mentioned above will be borne out of the funds received or to be received from the UGC for the purpose of the STRIDE-III Project as mentioned in 3.0(a) (i) above.

(iii) The financial responsibility of all the researchers will be personal and the institutions will in no way become liable except for the duties which they are required to perform as per the existing rules of the University Grants Commission and the university concerned.

(iv) All researchers will be jointly liable to conduct the research study as mentioned in 3.0 (a) (i) above.

(v) Researchers will make decisions jointly under the leadership of the PI, as mentioned in 3.0 (a) (ii) above.

(vi) All researchers will follow the requirements laid down in the submitted project to the University Grants Commission, India and the associated scheme.

(vii) All academic as well as administrative matters relating to the functioning of the Research Stations (at Tezpur University and Tripura University) concerning this project, will be settled by the respective university in consultation with the PI of the project.

(viii) All researchers will be liable to complete the duties relating to the execution of the research project mentioned in 3.0 (a) (i) above as per the sanctioned terms and conditions of the University Grants Commission, India.

(ix) For conducting joint activities relating to the Project as mentioned in 3.0 (a) (i) above, the expenditure/cost of data collection, T.A, D.A and other relevant expenditure of the research team will be borne by the fund allocated to the respective Research Station as mentioned in the Project.

(xi) The Research Station located at Tripura University will be responsible to conduct survey in Tripura and Lower Assam and all expenses relating thereto will be borne from the fund allocated to this research station.

And

Accordingly the survey related expenditure of Meghalaya and Upper Assam will be borne by the Research Station located at the Tezpur University from the fund allocated to this Research Station.

And

It is also agreed that all the activities (including financial matters) related to this research Project as mentioned in 3.0 (a) (i) above, will be closely monitored by the Nodal centre located at the Bardwan University.

(xi) Hereinafter, it is also stated that, for any visit of the Researchers, Experts, Enumerators and any other staff related to the Project as mentioned in 3.0 (a) (i) above, to any Research Station, associated expenditures will be borne by the host Research Station from their allocated funds. All visits to the Research Stations from the Nodal Centre will be funded by the respective Research Station situated at Tezpur and Tripura.

(c) When the collaboration matures, possibility of similar research and/or academic collaborations in other fields of studies may be explored with mutual consent and discussion.

4.0 CONFIDENTIALITY

- a. During and for a period of three years from the date of disclosure, each party agrees to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed confirmed in writing within thirty days of disclosure and identified as confidential by the disclosing party.
- b. The obligations above shall not extend to any confidential information for which the receiving party can prove that this information:

- is in the public domain at the time of disclosure or comes within the public domain without fault of the receiving party.
- is already known or become known to the receiving party,
- is received from a third party having no obligations of confidentiality to the disclosing party.
- is independently developed by the receiving party, or
- is required to be disclosed by law or court order.

5.0 NON-EXCLUSIVITY

The relationship of the parties under this MOU shall be nonexclusive and both parties, including their affiliates, subsidiaries and divisions, are free to pursue other agreements or collaborations of any kind. However, when entering into a particular business, partnership, or dealership agreement, the participants may agree to limit each party's right to collaborate with others on that subject.

6.0 TERMS AND TERMINATION

This MOU, unless extended by mutual written agreement of the parties, shall expire 3 years after the effective date specified in the opening paragraph and can be renewed through mutual interest. This MOU may be amended or terminated earlier by mutual written agreement of the parties at any time. Either party shall have the right to unilaterally terminate this MOU upon 90 days prior written notice to the other party. However, no such early termination of this MOU, whether mutual or unilateral, shall affect the obligations of the participants under any Business Agreement, Confidentiality clause as referenced in clause 4 above, or any other agreement entered into pursuant to this MOU, which obligations shall survive any such termination.

7.0 RELATIONSHIP

Nothing in this MOU shall be construed to make party a partner, an agent or legal representative of the other for any purpose. Now onwards, till the validity of this agreement, both the parties may mention the name and LOGO of the other in their documents as "COLLABORATOR" for purposes as may be required to carry out the research under the scheme for which this MOU is made. But such an instance should be communicated by the user to the other party in writing beforehand.

8.0 INTELLECTUAL PROPERTY RIGHTS (IP)

Intellectual property rights of both the parties will continue to be maintained as is and no party will have rights to any IP already existing with each party. In case of any IP developed jointly, both parties would sign a separate agreement on a mutually agreed basis for such an instance and terms of the same would NOT be guided through this MOU.

9.0 ASSIGNMENT AND SCOPES

It is understood by the Parties herein this MOU is based on the professional competence and expertise of each party and hence neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party.

10.0 AMENDMENTS

Amendments or changes to this agreement or MoU shall be made in writing and signed by the duly authorized Representatives of the parties.

11.0 FUNDING

The initial stage of this agreement would not be funded by any of the parties; however, each party would be responsible for the cost of their travel and living expenses.

After the inception, when the collaboration matures, the funding may be realized on application to University Grant Commission (UGC). The Parties can submit joint project proposals to relevant funding agencies and the funding applications should be made by the participating parties with their mutual consent and discussions regarding the scope and extent of such funded program and its goals.

12.0 COSTS OF THE MOU

Each Party shall bear the respective costs of carrying out the obligations under this MOU

13.0 POINT OF CONTACTS

Each Party will nominate its own representatives who would be responsible for all measures to be undertaken under this agreement and they would be called point of contact (PoC). The point of contact for each of the parties is mentioned below:

FOR TEZPUR UNIVERSITY

Dr. Santi Gopal Maji, Associate Professor, Department of Commerce, Tezpur University, Napaam, Tezpur, Assam 784028, India
Email: sgmaji2010@gmail.com; Phone No. +91-9434030244
(On lien from NEHU as Assistant Professor w.e.f. 12.12.2019 to 11.12.2021)

FOR TRIPURA UNIVERSITY

Dr. Subir Kumar Sen, Assistant Professor, Department of Commerce, Tripura University, Suryamaninagar, Agartala-799022, Tripura, India
Email: subirkumarsen@gmail.com; Phone No. +91-9089880888

FOR THE UNIVERSITY OF BURDWAN

Prof Santanu Kumar Ghosh, Department of Commerce, The University of Burdwan, Golapbag, P.O.-Rajbati, Dist- East Burdwan, West Bengal-713104, India
Email: shantanu.kaizen@gmail.com, Phone: +919434360561

14.0 MODIFICATIONS TO MOU

Any amendment or modifications of this MOU shall be in writing by both parties.
The modifications/changes shall be effective from the date on which they are made/ executed, unless otherwise agreed to.

15.0 FORCE MAJEURE


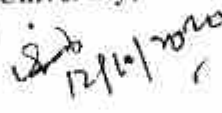





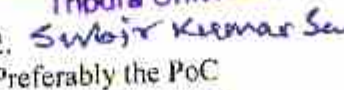

Neither party shall be held responsible for non-fulfillment of their respective obligation under this MOU due to circumstances beyond their control but not limited to war, flood, cyclones, riots, strikes etc. If such condition continues beyond six months, the parties shall then mutually decide about the future course of action. Either party shall intimate each other of any such event.

In witness whereof, the parties hereto have signed this MOU on the 9th Day of October 2020

a) SIGNED IN DUPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

On behalf of	On behalf of	On behalf of
Tezpur University, Assam	Tripura University, Tripura	The University of Burdwan, West Bengal
By : 	By : 	By : 
Name : <u>Dr. Bireen Das</u>	Name : <u>DR. K.B. JAMATIA</u>	Name : <u>PROF. ASHIJIT MAZUMDAR</u>
Title : <u>The Registrar, Tezpur University</u>	Title : <u>The Registrar, Tripura University (Dr. K.B. Jamatia) Registrar (i/c)</u>	Title : <u>The Registrar, The University of Burdwan</u>
Date : <u>Tezpur University Napaam, Tezpur</u>	Date : <u>Tripura University</u>	Date : <u>09.10.2020</u>
SEAL	SEAL	SEAL
Witness:	SEAL	SEAL
1.  Preferably the HoD Department of Commerce Tezpur University	1.  Preferably the HoD (Dr. Chinmoy Roy) Professor & Head Department of Commerce Tripura University	1.  Preferably the HoD HEAD DEPARTMENT OF COMMERCE THE UNIVERSITY OF BURDWAN
2.  Preferably the PoC Department of Commerce Tezpur University Napaam, Assam-784028 Co-PI	2.  Preferably the PoC Co-PI and Assistant Professor Department of Commerce Tripura University	2.  Preferably the PoC PI UGC STRIDE-III



NTLAB, UAB
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VAT ID number: LT100009501517
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LITHUANIA
Tel.: +37061695418

sl.no. 31

05.06.2020
Ref.No. 3

To: Dr. Anindya Bose, Professor
The University of Burdwan, Department of Physics Golapbag, Burdwan 713104, West Bengal, INDIA

Subject: Letter of Interest
Enclosures: Memorandum of understanding and cooperation

Dear Dr. Anindya Bose,

As we know, the University of Burdwan (BU) is engaged in research of navigation products and services.

NTLAB UAB (NTLab) is developing chipsets for navigation receivers and offering chips, modules and an open hardware platform, is interested in international research projects and the use of its products by customers from India.

To establish our cooperation of mutual research, components supply (from NTLab) and other possible collaboration in GNSS area, we invite you to sign the Memorandum of understanding and cooperation (ENCLOSURE 1) targeted to the following:

1. Performance study of NTLab modules under conditions of the radionavigation field of India.
2. Usage of NTLab modules during research and in the learning process.
3. Assisting clients in India in implementing their own algorithms on NTLab hardware.
4. Joint research projects.
5. Creating, on the basis of BU, NTLab's center of scientific competence and customer support in India.

Sincerely,

Dmitri Tcherniakovskii

Director



To:

Whom It May Concern

Vienna, 19 August 2021

LETTER OF INTEREST

Dear Sir / Madam,

I am very pleased to invite Dr. Anindya Bose to collaborate and bring his expertise as advisor in the course of the Erasmus+ Capacity Building in Higher Education project entitled 'Curricula Enrichment delivered through the Application of Location-based Services to Intelligent Transport Systems / LBS2ITS'. The LBS2ITS project has a duration of 3 years and started on January 15, 2021. Participating Universities are the EU programme countries' Universities Technische Universitaet Dresden (TU Dresden), Germany, and National Technical University of Athens (NTUA), Greece, under the lead of Technische Universitaet Wien (TU Wien), Austria. The partner country in this project is Sri Lanka with the four Sri Lankan partner Universities Sabaragamuwa University of Sri Lanka (SUSL), University of Moratuwa (UOM), University of Sri Jayewardenepura (USJ) and General Sir John Kotelawala Defence University (KDU).

Location-based Services (LBS) are an important application in Positioning, Navigation and Timing (PNT) and especially for Intelligent Transport Systems (ITS). Global Navigation Satellite Systems (GNSS) play thereby a crucial role and for the LBS users in the Indian sub-continental region the Indian Regional Satellite Constellation NavIC and the Satellite Based Augmentation System (SBAS) GAGAN provide great opportunities for research and education. Due to the great expertise of Dr. Bose in the PNT field, the collaboration and exchange of research ideas can benefit all involved institutions. A train-the-teachers course on PNT technologies is held in early May 2022 in Sri Lanka at SUSL. We would like to invite Dr. Bose to contribute and participate in this course. Another starting point of our collaboration would be that Dr. Bose joins as a member of a supervisory panel for a master students from SUSL.

We are confident that the collaboration with the Dr. Bose and Burdwan University will be of mutual benefit for all involved partners. Further acquisition of funding for joint research projects forms an integral part of our intended collaboration and will be sought-after.

Yours sincerely,



Guenther Retscher
TU Wien - Vienna University of Technology
<https://lbs2its.net/>



Spatiotemporal modulated solitons in a quasi-one-dimensional spin-1 Bose–Einstein condensates

Fei-Yan Liu^a, Su-Yong Xu^b, Houria Triki^c, Amitava Choudhuri^d, Qin Zhou^{a,e,*}

^a Research Group of Nonlinear Optical Science and Technology, Research Center of Nonlinear Science, School of Mathematical and Physical Sciences, Wuhan Textile University, Wuhan 430200, China

^b College of Optical, Mechanical and Electrical Engineering, Zhejiang A&F University, Lin'an 311300, China

^c Radiation Physics Laboratory, Department of Physics, Faculty of Sciences, Badji Mokhtar University, P.O. Box 12, 23000 Annaba, Algeria

^d Department of Physics, The University of Burdwan, Golapbag 713104, West Bengal, India

^e State Key Laboratory of New Textile Materials and Advanced Processing Technologies, Wuhan Textile University, Wuhan 430200, China

ARTICLE INFO

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Bright/dark solitons
Hirota bilinear method

ABSTRACT

In this paper, we investigate the nonautonomous bright/dark solitons in a quasi-one-dimensional spin-1 Bose–Einstein condensates through a three coupled Gross–Pitaevskii (GP) system with space–time-dependent external potential and temporally modulated gain/loss distributions. Based on the Hirota bilinear method, analytically construct the bright soliton solutions when the coupled GP system exhibits attractive interaction while we obtain the dark soliton solutions when the coupled GP system exhibits repulsive interaction. The influence of spatiotemporal modulated external potentials, such as the gain/loss distribution $\Gamma(r)$, bright/dark soliton dynamics is analyzed in detail via the analytical solutions. By taking different $\Gamma(r)$, obtain different types of bright solitons, including periodic, dromion-like and parabolic solitons, and derive dark solitons on different backgrounds, such as periodic, parabolic and kink backgrounds. We analyze the regulatory effects of different wavenumber ratios on the attraction and squeezing of bound-state solitons. Through the asymptotic analysis, we find that the interactions between two solitons are elastic. In addition, we conduct research on the forward and inverse problems of the above results via the parallel hard-constrained physical informed neural network (phPINN) method. The predicted solitons and potential functions are in good agreement with the exact solitons and potential in the system.

1. Introduction

Bose–Einstein condensation (BEC) represents one of the most specific and fascinating quantum phenomena in nature [1]. In essence, it is a genuinely quantum-mechanical phase transition which is driven by the particle statistics and not by their interaction. Especially, a spinor BEC is a BEC with an internal atomic spin degree of freedom displaying a rich variety of magnetic effects [2]. In such interesting multi-component condensed system, there exist several phases below the transition temperature and the phases are dependent on the nature of the interaction. It should be mentioned here that in a conventional magnetic traps, the spin degrees of freedom are frozen and the BEC is described by a scalar order-parameter. In contrast, when the BEC is trapped using an optical potential, the spin of each atom is free to evolve due to the interparticle interaction. The order-parameter describing a BEC with spin internal degrees of freedom is referred to as a spinor BEC [3–6]. Usually, spinor BECs feature an intrinsic three

component structure, which is due to the differences between different hyperfine spin states of atoms [5]. It is also to be noted that such a spinor system has been first experimentally realized in a gas of ^{23}Na atoms with hyperfine spin $F = 1$, in an optical dipole trap [4]. Moreover, it has been reported that due to the interparticle interaction, the direction of atomic spins can change, and therefore, spinor BECs exhibit certain spin textures [7–9]. Nowadays, spinor BECs have an important role in physics because the spin degrees of freedom can generate rich quantum dynamics and abundant phenomena, including spin texture (i.e., spatial variation of the spin direction [2]), magnetic crystallization, fractional vortices [10–12]. Importantly, experimental and theoretical studies on spinor BECs have revealed various interesting phenomena, such as quantum junction [13], polarity to ferromagnetic phase transition [14], condensation excited by Magnon [15], and various nonlinear excitations composed of dark/bright solitons [16–23], rogue waves [24], soliton complexes [25], vortices [26–28], etc.

* Corresponding author at: Research Group of Nonlinear Optical Science and Technology, Research Center of Nonlinear Science, School of Mathematical Physical Sciences, Wuhan Textile University, Wuhan 430200, China.

E-mail address: qinzhou@whu.edu.cn (Q. Zhou).

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SL.no. 33

MEMORANDUM OF UNDERSTANDING

Between

THE UNIVERSITY OF BURDWAN

RAJBATI, BURDWAN, WEST BENGAL, 713104

INDIA

and

SHIVAJI UNIVERSITY

KOLHAPUR 416 004

MAHARASHTRA

INDIA

This MOU is entered into on the **eighteenth** day of **January 2021**

BETWEEN

THE UNIVERSITY OF BURDWAN, RAJBATI, BURDWAN, WEST BENGAL 713104, INDIA (hereinafter called "BU" which expression shall where the context so admits include its successors and permitted assignees) of the one part,

AND

SHIVAJI UNIVERSITY, KOLHAPUR 416 004, MAHARASHTRA, INDIA ((hereinafter called "SUK" which expression shall where the context so admits include its successors and permitted assignees) and the other part

1.0 Preamble:

Whereas, "THE UNIVERSITY OF BURDWAN (BU)" is one part and "Shivaji University, Kolhapur (SUK)" is the other, both are parties to this MoU.

Whereas, SUK has set up Space Research Center, (SRC) located on the mountain top near Panhala fort (16.8°N, 74.2°E, Altitude: 968 meters) for the space research and application. The location of Panhala with magnetic dip latitude of 10.60 is situated in between the crest and trough locations of the plasma fountain effect that exists in the upper atmosphere. This place is ideal for the study of the ionospheric anomalies near equatorial regions. SUK has also installed an Indian Regional Navigation Satellite System (IRNSS): NavIC system Automatic weather monitoring system, Sudden Ionospheric Disturbance (Super-SID) space weather monitor. Relative Ionospheric Opacity Meter (RIO-Meter) at Space Research Center, Panhala, Kolhapur. Whereas, Satellite Synchronized ULF induction magnetometer, Proton Presetion Magnetometer (PPM), Celestron C5XLT OTA, Schmidt-Cassegrain Telescope (SCT), etc are available in the department.

Whereas The University of Burdwan is a leading University in West Bengal engaged in teaching and research in different fields of knowledge and learning. One of the fields of training and research of the University is use of space-based technologies and satellite-based navigation systems (GNSS, hereinafter). The University has a GNSS laboratory used for training and research purposes. Both universities are agreed to extend the collaborative research and academic activities using existing and upcoming GNSS systems, particularly for GNSS Research.

Both the parties are entering into this MoU for Research and Academic Collaboration for GNSS Research in mutually beneficial and befitting manner.

2.0 Effective Date and Duration of MoU:

This MoU is effective from the date of its signing and is valid for a duration 3 (Three) years from the date of signing. It may be extended further in writing based on mutual consent.



3.0 Scope of MoU:

Scope of the MoU involves research and academic collaboration in the field of GNSS which includes but not limited to Navigation Data collection, sharing and analysis for mutually agreed topics of research for both parties, joint academic programs and joint application for possible funding from appropriate funding agencies.

4.0 PROPOSED MODES OF COLLABORATION

SUK and BU propose to collaborate through

- a) Establishing collaboration between GNSS research Centre and Department of Physics in the field of GNSS as a Research Partner
- b) Mutual sharing of IRNSS/ NavIC/ GNSS data for research, those are not restricted for distribution by any other legal/ ethical obligations
- c) Shared data shall be used for Academic research purpose only.
- d) Due acknowledgment of data provider institute and ISRO in case of IRNSS/ NavIC data used in joint publications.
- e) When the collaboration matures, possibility of similar research and/ or academic collaborations in other fields of studies may be explored with mutual consent

5.0 CONFIDENTIALITY

- a. During and for a period of three years from the date of disclosure, each party agrees to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed confirmed in writing within thirty days of disclosure and identified as confidential by the disclosing party.
- b. The obligations above shall not extend to any confidential information for which the receiving party can prove that, this information:
 - is in the public domain at the time of disclosure or comes within the public domain without fault of the receiving party.
 - is already known or become known to the receiving party
 - is received from a third party having no obligations of confidentiality to the disclosing party,
 - is independently developed by the receiving party or
 - is required to be disclosed by law or court order.

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collaborations of any kind. However, when entering into a particular business, partnership, or dealership agreement, the participants may agree to limit each party's right to collaborate with others on that subject.

7.0 TERMS AND TERMINATION

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8.0 RELATIONSHIP

Nothing in this MOU shall be construed to make either party a partner, an agent or legal representative of the other for any purpose. Now onwards, till the validity of this agreement, both the parties may mention the name and LOGO of the other in their documents as "COLLABORATOR" for purposes as may be required. But such an instance should be communicated by the user to the other party in writing beforehand.

9.0 INTELLECTUAL PROPERTY RIGHTS (IP)

Intellectual property rights of both the parties will continue to be maintained as is and no party will have rights to any IP already existing with each party. In case of any IP developed jointly, both parties would sign a separate agreement on a mutually agreed basis for such an instance and terms of the same would NOT be guided through this MOU.

10.0 ASSIGNMENT

It is understood by the Parties herein this MOU is based on the professional competence and expertise of each party and hence neither Party shall transfer or assign this Agreement, or rights or obligations arising hereunder, either wholly or in part, to any third party.

11.0 AMENDMENTS

Amendments or changes to this agreement or MoU shall be made in writing and signed by the duly authorized Representatives



12.0 FUNDING

The initial stage of this agreement would not be funded by any of the parties, however, each party would be responsible for the cost of their travel and living expenses.

After the inception, when the collaboration matures, the funding may be realized on application to various funding agencies of relevance. The Parties can submit joint project proposals to relevant funding agencies and the funding applications should be made by the participating parties with their mutual consent and discussions regarding the scope and extent of such funded program and its goals.

13.0 COSTS OF THE MOU

Each Party shall bear the respective costs of carrying out the obligations under this MOU

14.0 POINT OF CONTACTS

Each Party will nominate its own representatives who would be responsible for all measures to be undertaken under this agreement and they would be called point of contact (PoC). The point of contact for each of the parties are mentioned below:

FOR SHIVAJI UNIVERSITY:

Dr. Rajiv Shrikant Vhatkar,
Asst. Professor and Co-ordinator, Space Research Center, Panhala
Department of Physics, Shivaji University,
Kolhapur-416004, Maharashtra, India
Email: drvhatkar@gmail.com Cell: (0)7588246170

FOR THE UNIVERSITY OF BURDWAN

Dr Anindya Bose,
Senior Scientific Officer,
Department of Physics, The University of Burdwan
Golapbag 713 104, West Bengal
abose@phys.buruniv.ac.in; Cell: (0)9434004478

15.0 Modifications to MoU:

15.1 Any amendment or modifications of this MOU shall be in writing by both parties.

15.2 The modifications/changes shall be effective from the date on which they are made/ executed, unless otherwise agreed to.

16.0 Force Majeure:

Neither party shall be held responsible for non-fulfillment of their respective obligation under this MoU due to circumstances beyond their control but not limited to war, flood, cyclones,



decide about the future course of action. Either party shall intimate each other of any such event.

In witness whereof, the parties hereto have signed this MOU on the **eighteenth** Day of **January 2021**.

17.0 SIGNED IN DUPLICATE

This MOU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity.

BY SIGNING BELOW, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding to be executed, effective as of the day and year first above written.

On behalf of

Shivaji University, Kolhapur

By :

REGISTRAR

Name : **Shivaji University
Kolhapur**

Title :

Date : 18/01/2021

SEAL



Witness:

1. **Dr. Rajiv S. Vhatkar**
Coordinator,
Space Research Center, Panhala,
Shivaji University, Kolhapur
2. **(Dr. N. L. Tarwal)**
Dr. N. L. Tarwal
Assistant Professor,
Department of Physics,
Shivaji University, Kolhapur-416 004

On behalf of

The University of Burdwan, Burdwan

By :

Name : **Prof A Mazumdar**
The Registrar (Officiating)
The University of Burdwan
Rajbati, Burdwan-713 011
West Bengal

Title :

Date : 18/01/2021

SEAL



Witness:

1. **Printer**
(PARTHA MITRA)
Professor & Head
Department of Physics
The University of Burdwan
Burdwan-713104
2. **Anindya Bose**
(ANINDYA BOSE)
DR ANINDYA BOSE
SENIOR SCIENTIFIC OFFICER
DEPARTMENT OF PHYSICS
BURDWAN UNIVERSITY, GOLAPBAG
BURDWAN-713 104, INDIA