



**B. L. D. E Association's  
S. B. Arts and K. C. P. Science College, Vijayapur**

**Department of PG Studies in Physics**

**In Association with**

**Karnataka Science and Technology Academy (KSTA)**

**Organizes**

**2<sup>nd</sup> International Webinar Series**

**On**

**Quantum Science and Technology**

**09/September/2024 to 13/September/2024**

**2023-2024**



B. L. D. E. ASSOCIATION'S  
S. B. ARTS AND K. C. P. SCIENCE COLLEGE  
BLDE New Campus, Shri B. M. Patil Road, Vijayapur-586103  
Accredited with CGPA of 2.99 at 'B'' Grade in 4<sup>th</sup> Cycle by NAAC  
(Affiliated to Rani Channamma University, Belagavi)  
Website: [www.bldeasbkcp.ac.in](http://www.bldeasbkcp.ac.in) E-mail: [bldeasbkcp@gmail.com](mailto:bldeasbkcp@gmail.com)



**Department of P.G. Studies in Physics**

**Date: 06/09/2024**

**NOTICE**

The Department of P.G. Studies in Physics is organizing a 2<sup>nd</sup> International Webinar in association with Karnataka Science and Technology Academy (KSTA) on "Quantum Science and Technology" from 09/09/2024 to 13/09/2024 at 3:30 PM to 4:45 PM, through the WEBEX meet platform. All the students should attend the lecture without fail.

Webinar link : <https://ksta.webex.com/ksta/j.php?MTID=m52c4cf9e088f9acd3bf853e6b5c58d82>  
Meeting No. : 2515 229 8681  
Password : ZmHnaupN533 (96462876 when dialing from a video system)  
Registration Link : <https://ksta.webex.com/webappng/sites/ksta/webinar/webinarSeries/register/42fb60b9acb04b0e913b39f5aceff5b4>

  
Principal,  
S.B. Arts and KCP Science College  
VIJAYAPUR



**Karnataka Science and Technology Academy (KSTA)**  
**Department of Science and Technology**  
**Government of Karnataka, Bengaluru**  
**Associate Partner**



**B. L. D. E. Association's**  
**S. B. Arts and K. C. P. Science College, Vijayapur**  
**Department of P.G. Studies in Physics**  
**Organize 2<sup>nd</sup> International Webinar Series**

**on**  
**“Quantum Science and Technology”**  
**2023-2024**

The Department of PG Studies in Physics has organized a 2<sup>nd</sup> International Webinar in association with **Karnataka Science and Technology Academy (KSTA)** on “**Quantum Science and Technology**” from 9/September/2024 to 13/September /2024 between 3:30 PM and 4:45 PM, through the **WEBEX** meet platform. There were five lectures delivered by resource persons from renowned institutions of India as well as abroad. Number of students join the webinar 82.

We received good response from the audience who appreciated the efforts to make Quantum Mechanics reasonable to students. The resource person thanked the organizers for arranging this International webinar. At the end of the International Webinar Dr. Ramesh, CEO, Karnataka Science and Technology Academy Bangalore delivered the vote of thanks. He thanked the Resource Person, Management, Director, Principal, HoDs, Faculty Members, Participants and other officials for their active support to make this programme successful.

**Day: 1.**

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                             | 9/09/2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Time</b>                             | 3.30 pm - 4.45 pm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Title</b>                            | Optics for Quantum Information Processing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Resource Person name and address</b> | Dr. Omkar Srikrishna<br>Quantum Theorist/Architect<br>Architect group,<br>ORCA Computing<br>Toronto<br>Canada                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Brief Report</b>                     | Quantum Information Processing focuses on information processing and computing based on quantum mechanics. While current digital computers encode data in binary digits (bits), quantum computers aren't limited to two states. They encode information as quantum bits, or qubits, which can exist in superposition. Qubits can be implemented with atoms, ions, photons or electrons and suitable control devices that work together to act as computer memory and a processor. Because a quantum computer can contain these multiple states simultaneously, they provide an inherent parallelism. This |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | will enable them to solve certain problems much faster than any classical computer using the best currently known algorithms, like integer factorization or the simulation of quantum many-body systems. Right now the quantum computer is still in its infancy. First steps on that road are the simplest building blocks such as quantum logic gates and memory based on genuine quantum effects such as superposition and entanglement. |
| <b>You Tube Link</b> | <a href="https://youtube.com/live/hP4aFEJMQ_k?feature=share">https://youtube.com/live/hP4aFEJMQ_k?feature=share</a>                                                                                                                                                                                                                                                                                                                        |
| <b>Join Link</b>     | <a href="https://ksta.webex.com/ksta/j.php?MTID=m38faec7947d2823caf8a31c6ab804870">https://ksta.webex.com/ksta/j.php?MTID=m38faec7947d2823caf8a31c6ab804870</a>                                                                                                                                                                                                                                                                            |

Quantum states: Qubits

$|\Psi\rangle = \alpha|0\rangle + \beta|1\rangle, |\alpha|^2 + |\beta|^2 = 1$

Parameterize:  $|\Psi\rangle = \sin(\theta/2)|0\rangle + e^{i\varphi} \cos(\theta/2)|1\rangle$

Density Matrix:  $\rho = \frac{1}{2}(I + r_x X + r_y Y + r_z Z)$

$X = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}, Y = \begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}, Z = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$

Another useful state:  $|M\rangle = \frac{1}{\sqrt{2}}(|0\rangle + e^{i\pi/4}|1\rangle)$

Realization of qubits

Super-conducting platform

Nitrogen vacancy center

Quantum dot

Trapped ions

Optical Qubits

Discrete variable states

Continuous variable states

Dual rail qubit

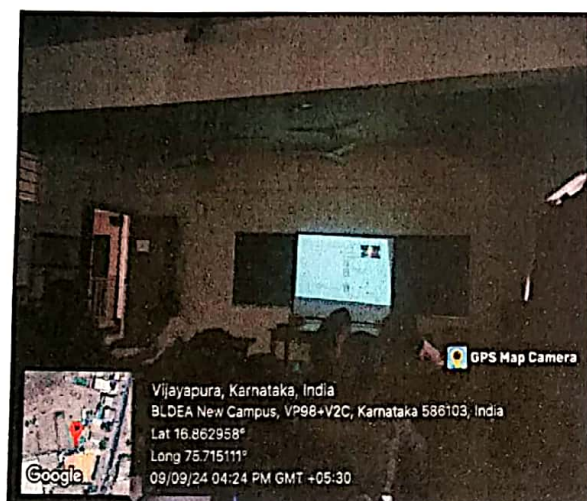
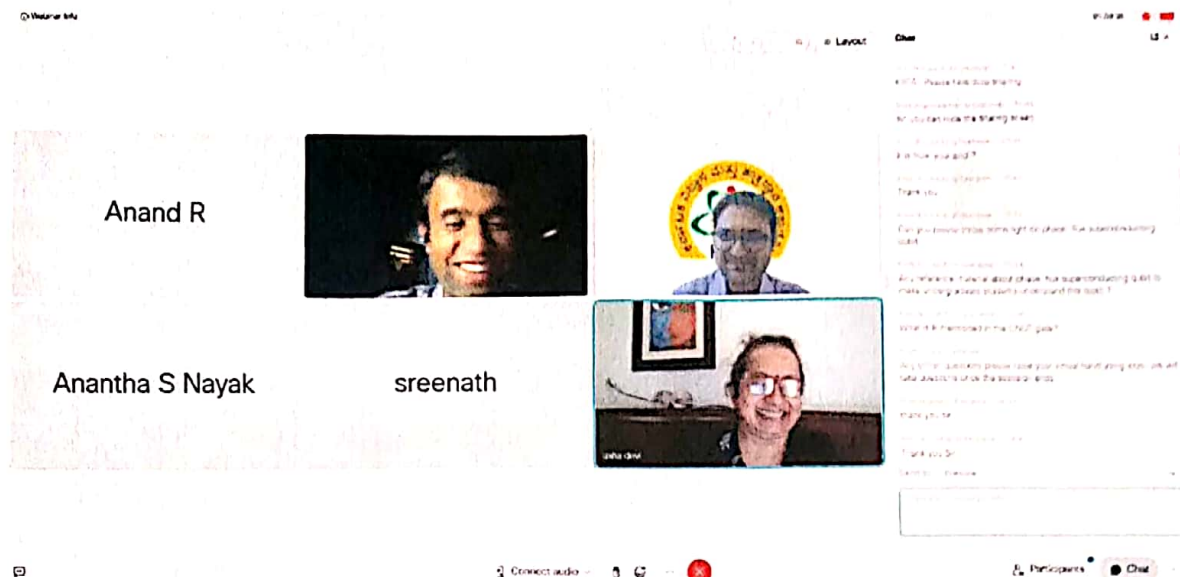
Polarization qubit

Hybrid state

GKP Qubit

Cot qubit

Hybrid entanglement of light



## Day: 2.

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                             | 10/09/2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Time</b>                             | 3.30 PM to 4.45 PM<br>3:30 PM   (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Title</b>                            | Characterization of Quantum Entanglement using Entropic Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Resource Person name and address</b> | <b>Dr. Anantha S Nayak</b><br>Assistant Professor in Physics<br>Regional Institute of Education<br>NCERT, Ajmer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Brief Report</b>                     | Entanglement entropy is a measure of how quantum information is stored in a quantum state. With some care, it can be defined in quantum field theory, and although it is difficult to calculate, it can be used to gain insight into fundamental questions like the nature of the renormalization group. Entanglement entropy is a measure of how quantum information is stored in a quantum state. With some care, it can be defined in quantum field theory, and although it is difficult to calculate, it can be used to gain insight into fundamental questions like the nature of the |

|               |                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | renormalization group. In holographic systems, entanglement entropy is encoded in geometric features of the bulk geometry                                                                                                    |
| You Tube Link | <a href="https://youtube.com/live/jMwXhgJXDz8?feature=share">https://youtube.com/live/jMwXhgJXDz8?feature=share</a><br><a href="https://www.youtube.com/watch?v=jMwXhgJXDz8">https://www.youtube.com/watch?v=jMwXhgJXDz8</a> |
| Join Link     | <a href="https://ksta.webex.com/ksta/j.php?MTID=m4da8103bdf64753d8663619fa48e7522">https://ksta.webex.com/ksta/j.php?MTID=m4da8103bdf64753d8663619fa48e7522</a>                                                              |

Webinar Info

Participants (20)

Anantha S Nayak

Anand R

Anantha S Nayak

KSTA-2

Cohost

Participants (20)

- KSTA
- Anantha S Nayak
- KSTA 2
- Anand R
- Anantha S Nayak
- anand.r@gmail.com
- Linear Structures
- Shree
- anand.r@gmail.com
- Anantha S Nayak
- Dr. Ganga Ramdas

Webinar Info

Participants (23)

Anantha S Nayak

Anand R

Dr. Sudha

Anantha S Nayak

In general, for a mixed state  $\rho^{mixed}$

$$S(\rho^{mixed}) > 0$$

$\rho = \frac{1}{2} (|00\rangle\langle 00| + |11\rangle\langle 11|)$  A mixed but quiet state

$\rho = \frac{1}{2} (|00\rangle\langle 00| + |11\rangle\langle 11|)$

$\rho = \frac{1}{2} \left( \begin{pmatrix} 1 & 0 \\ 0 & 0 \end{pmatrix} \otimes \begin{pmatrix} 1 & 0 \\ 0 & 0 \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ 0 & 1 \end{pmatrix} \otimes \begin{pmatrix} 0 & 0 \\ 0 & 1 \end{pmatrix} \right)$

$\rho = \frac{1}{2} \left( \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} + \begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix} \right)$

$\rho = \frac{1}{2} \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$  clearly  $\rho \neq \rho^2$ ,  $\text{Tr}(\rho) = 1$ ,  $\text{Tr}(\rho^2) < 1$ .

Participants (23)

- KSTA
- Anantha S Nayak
- Anand R
- Anantha S Nayak
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- Dr. Sudha
- Linear Structures
- Shree
- anand.r@gmail.com
- Anantha S Nayak
- Dr. Ganga Ramdas

Webinar Info

Participants (20)

Anantha S Nayak

Anand R

Dr. Sudha

Anantha S Nayak

**Partial Trace:**

The partial trace operation over one of the subsystems is nothing but taking inner product over the basis states of the subsystem being traced out. Explicitly, the partial trace operation over the first subsystem can be obtained using

$$\text{Tr}_1 |a_i b_j\rangle \langle a_i b_j| = |b_j\rangle \langle b_j|$$

where  $|a_i\rangle$ ,  $|b_j\rangle$  denote the orthonormal basis states of the first, second subsystems respectively,  $\langle | \rangle$  denotes the inner product and  $\delta$  denoting the Kronecker delta.

16

Participants (20)

- KSTA
- Anantha S Nayak
- Anand R
- Anantha S Nayak
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- Dr. Sudha
- Linear Structures
- Shree
- anand.r@gmail.com
- Anantha S Nayak
- Dr. Ganga Ramdas

The screenshot displays a Zoom meeting in progress. At the top, three video thumbnails are visible: Anand R (bottom left), Akshata (top right), and Anantha S Nayak (bottom right). The main area shows a presentation slide titled "Quantum State of a composite system". The slide content includes:

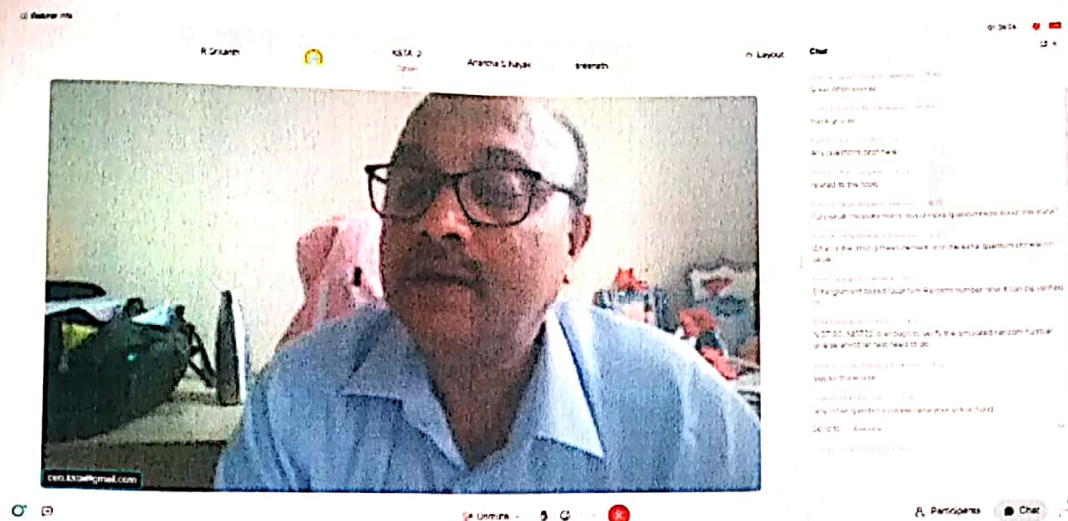
- Quantum State of a composite system
- Pure Separable: Entangled states
- Mixed Separable: Entangled states (Werner's Separability Criterion for mixed states)
- Operational Criteria
  - Schmidt Decomposition of a pure bipartite state
  - PPT (Peres Partial Transpose) criterion
  - Peres-Horodecki criterion

The right sidebar shows a chat window with messages and a list of participants including Anantha S Nayak, Anand R, Dr. Susha, and Anantha S Nayak.

### Day: 3.

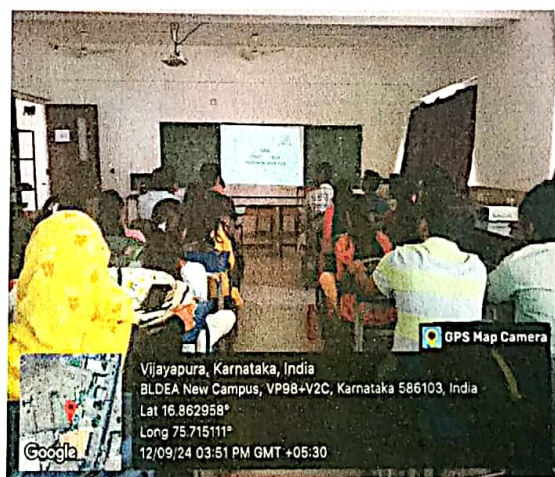
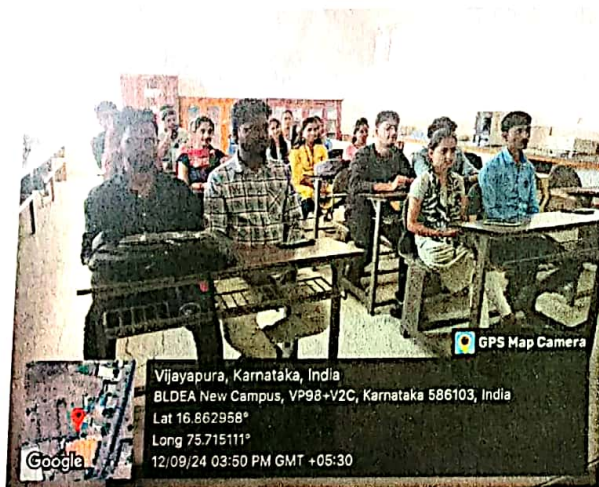
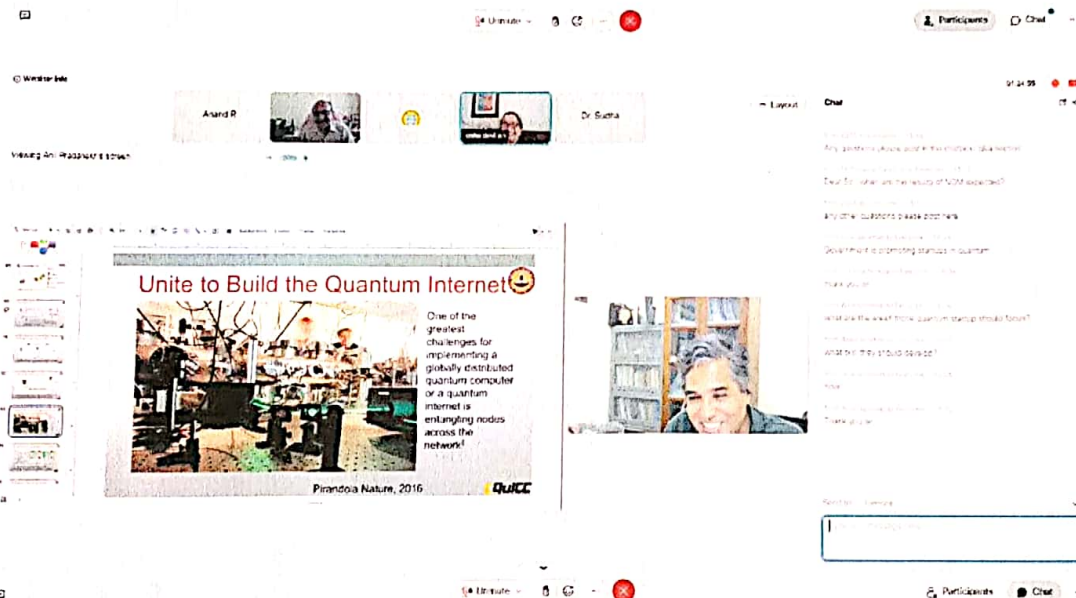
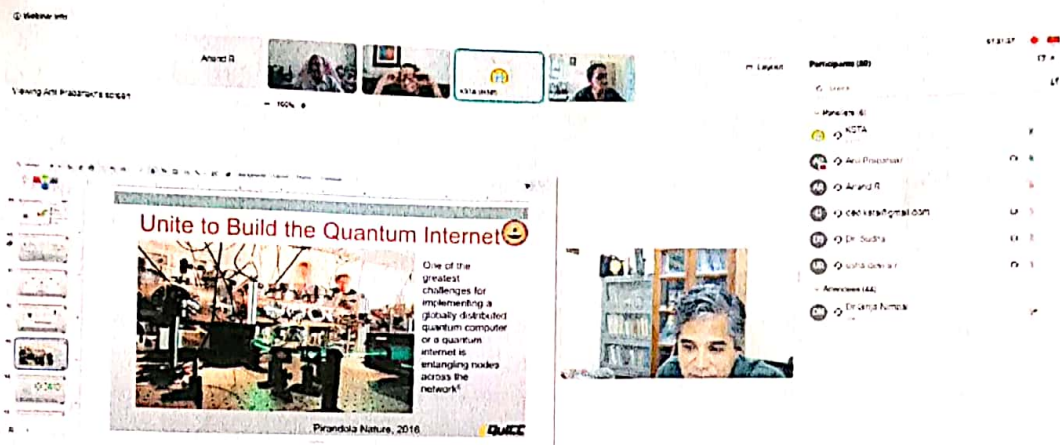
|                                         |                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                             | 11/09/2024                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Time</b>                             | 3.30 pm to 4.45 pm                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Title</b>                            | Quantum Correlations: From Weirdness to Applications                                                                                                                                                                                                                                                                                                                                    |
| <b>Resource Person name and address</b> | <b>Dr. R. Srikanth</b><br>Associate Professor,<br>Dept. of Theoretical Sciences,<br>Poornaprajna Institute of Scientific Research,<br>Bengaluru.                                                                                                                                                                                                                                        |
| <b>Brief Report</b>                     | Quantum information theory is built upon the realization that quantum resources like coherence and entanglement can be exploited for novel or enhanced ways of transmitting and manipulating information, such as quantum cryptography, teleportation, and quantum computing. We now know that there is potentially much more than entanglement behind the power of quantum information |





#### Day: 4.

|                                         |                                                                                                                                                                                                                             |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                             | 12/09/2024                                                                                                                                                                                                                  |
| <b>Time</b>                             | 3.30 pm to 4.45 pm                                                                                                                                                                                                          |
| <b>Topic</b>                            | Translating Quantum Technologies – Our National Quantum Mission                                                                                                                                                             |
| <b>Resource Person name and address</b> | <b>Dr. Anil Prabhakar</b><br>Professor<br>Dept. of Electrical Engineering<br>Indian Institute of Technology<br>Madras                                                                                                       |
| <b>Brief Report</b>                     | The National Quantum Mission seeks to translate scientific discoveries into tangible societal benefits, driving economic growth and enhancing national security in an increasingly interconnected and quantum-enabled world |
| <b>You. Tube. Link</b>                  | <a href="https://ksta.webex.com/ksta/j.php?MTID=mb972b70f35a6f3d537a92b8d7cfeed1">https://ksta.webex.com/ksta/j.php?MTID=mb972b70f35a6f3d537a92b8d7cfeed1</a>                                                               |
| <b>Webinar. Link</b>                    | <a href="https://ksta.webex.com/ksta/j.php?MTID=mac2797fb8447963abc0e198a5c2779a5">https://ksta.webex.com/ksta/j.php?MTID=mac2797fb8447963abc0e198a5c2779a5</a>                                                             |



### Day-5

|                                         |                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                             | 13/09/2024                                                                                                                                                                                                                                                |
| <b>Time</b>                             | 3.30 pm to 4.45 pm                                                                                                                                                                                                                                        |
| <b>Topic</b>                            | Spins as Quantum Workshop                                                                                                                                                                                                                                 |
| <b>Resource Person name and address</b> | <b>Dr. T S Mahesh</b><br>Professor<br>IISER<br>Pune                                                                                                                                                                                                       |
| <b>Brief Report</b>                     | It is a property particles possess because they are that particle. This angular momentum would be produced if a particle were to physically spin but the measured values are simply too high. The necessary speed of rotation would be faster than light. |
| <b>You Tube Link</b>                    | <a href="https://www.youtube.com/live/p0rPJOU42Jo?si=flb0LCg3zhJWJxVO">https://www.youtube.com/live/p0rPJOU42Jo?si=flb0LCg3zhJWJxVO</a>                                                                                                                   |
| <b>Webinar Link</b>                     | <a href="https://ksta.webex.com/ksta/j.php?MTID=m7cf090fb5bf636d808c5ad64e0ad44be">https://ksta.webex.com/ksta/j.php?MTID=m7cf090fb5bf636d808c5ad64e0ad44be</a>                                                                                           |

**RF Pulses**

Sense starts to the sum of Radio waves!

The diagram illustrates three RF pulses:

- 90<sub>x</sub>:** A circular pulse with a vertical axis and a horizontal axis. The red arrow points horizontally to the right.
- 180<sub>z</sub>:** A circular pulse with a vertical axis and a horizontal axis. The red arrow points vertically downwards.
- 90<sub>y</sub>:** A circular pulse with a vertical axis and a horizontal axis. The red arrow points diagonally down and to the left.

Navigation icons at the bottom include: Unmute, Microphone icon, Camera icon, and a Red X icon.

[illegible]

Vilayapura, Karnataka, India  
 MLDA New Campus, Solapur Road, VPUR+V2C, Karnataka  
 580105, India  
 Lat 10.814500° Long 75.715285°  
 13/09/24 03:57 PM GMT+05:30



Karnataka Science and Technology Academy (KSTA)  
Department of Science and Technology, Government of Karnataka, Bengaluru  
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| Sl.No. | UUCMS No.      | Name                       | Day-1 | Day-2 | Day-3 | Day-4 | Day-5 |
|--------|----------------|----------------------------|-------|-------|-------|-------|-------|
| 1.     | P15KM22S032026 | AKSHATA A MARANUR          |       |       |       |       |       |
| 2.     | P15KM22S032027 | APEKSHA SHIRASHYAD         |       |       |       |       |       |
| 3.     | P15KM22S032008 | GOUDAPPAGOUDA B ANGADAGERI |       |       |       |       |       |
| 4.     | P15KM22S032003 | SAHEBAGAUD KUMATAGI        |       |       |       |       |       |
| 5.     | P15KM22S032006 | DANAMMA SHIRAGOOR          |       |       |       |       |       |
| 6.     | P15KM22S032020 | AISHWARYA ASANGI           |       |       |       |       |       |
| 7.     | P15KM22S032015 | KETAN CHINCHAKHANDI        |       |       |       |       |       |
| 8.     | P15KM22S032029 | ASHWINKUMAR Y HAVANNVAR    |       |       |       |       |       |
| 9.     | P15KM22S032016 | CHANDRASHEKHAR N K         |       |       |       |       |       |
| 10.    | P15KM22S032001 | CHAVAN VIDYASHRI RAMRAO    |       |       |       |       |       |
| 11.    | P15KM22S032004 | KAVERI UTAGI               |       |       |       |       |       |
| 12.    | P15KM22S032028 | SOMANATH BANAGAR           |       |       |       |       |       |
| 13.    | P15KM22S032030 | SWATISHRI                  |       |       |       |       |       |
| 14.    | P15KM22S032018 | POOJA MALLARI NIKKAM       |       |       |       |       |       |
| 15.    | P15KM22S032010 | SHIVANI R KOKATNUR         |       |       |       |       |       |
| 16.    | P15KM22S032021 | VAIBHAV KALADAGI           |       |       |       |       |       |

|     |                |                            |                      |                      |                      |                      |                      |
|-----|----------------|----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 17. | P15KM22S032002 | SHYAMARAY VALASANG         | <del>Shyama</del>    | <del>Shyama</del>    | <del>Shyama</del>    | <del>Shyama</del>    | <del>Shyama</del>    |
| 18. | P15KM22S032013 | RASHMI GURUPAD DASHYAL     | <del>Rashmi</del>    | <del>Rashmi</del>    | <del>Rashmi</del>    | <del>Rashmi</del>    | <del>Rashmi</del>    |
| 19. | P15KM22S032022 | MANAGULI PRATIKSHA RAVASAB | <del>Managuli</del>  | <del>Managuli</del>  | <del>Managuli</del>  | <del>Managuli</del>  | <del>Managuli</del>  |
| 20. | P15KM22S032009 | SHREEPADARAJ G KULAKARNI   | <del>Shreepada</del> | <del>Shreepada</del> | <del>Shreepada</del> | <del>Shreepada</del> | <del>Shreepada</del> |
| 21. | P15KM22S032019 | ABDULHAMID HPATEL          |                      |                      |                      |                      |                      |
| 22. | P15KM22S032025 | VIBHA V RAO                | <del>Vibha</del>     | <del>Vibha</del>     | <del>Vibha</del>     | <del>Vibha</del>     | <del>Vibha</del>     |
| 23. | P15KM22S032005 | KESHAV CHATTER             | <del>Keshav</del>    | <del>Keshav</del>    | <del>Keshav</del>    | <del>Keshav</del>    | <del>Keshav</del>    |
| 24. | P15KM22S032024 | LAXMI KADADEVAR            | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     |
| 25. | P15KM22S032012 | SARASWATI MATHAPATI        | <del>Saraswati</del> | <del>Saraswati</del> | <del>Saraswati</del> | <del>Saraswati</del> | <del>Saraswati</del> |
| 26. | P15KM22S032014 | MOHAMMADZUBER ATERDAL      |                      |                      |                      |                      |                      |
| 27. | P15KM22S032031 | LAKSHMI MALLIKARJUN PATIL  | <del>Lakshmi</del>   | <del>Lakshmi</del>   | <del>Lakshmi</del>   | <del>Lakshmi</del>   | <del>Lakshmi</del>   |
| 28. | P15KM22S032017 | RACHAPPA S ANGADI          | <del>Rachappa</del>  | <del>Rachappa</del>  | <del>Rachappa</del>  | <del>Rachappa</del>  | <del>Rachappa</del>  |
| 29. | P15KM22S032023 | MAHESH HALABAR             | <del>Mahesh</del>    | <del>Mahesh</del>    | <del>Mahesh</del>    | <del>Mahesh</del>    | <del>Mahesh</del>    |
| 30. | P15KM22S032011 | RAHUL SIDDAPPA HAVALDAR    | <del>Rahul</del>     | <del>Rahul</del>     | <del>Rahul</del>     | <del>Rahul</del>     | <del>Rahul</del>     |
| 31. | P15KM22S103015 | BASAVARAJ REVADIHAL        | <del>Basavaraj</del> | <del>Basavaraj</del> | <del>Basavaraj</del> | <del>Basavaraj</del> | <del>Basavaraj</del> |
| 32. | P15KM22S103016 | VINODKUMAR HADAPAD         | <del>Vinod</del>     | <del>Vinod</del>     | <del>Vinod</del>     | <del>Vinod</del>     | <del>Vinod</del>     |
| 33. | P15KM22S103002 | ANASUYA RAJASHEKAR MATH    | <del>Anasuya</del>   | <del>Anasuya</del>   | <del>Anasuya</del>   | <del>Anasuya</del>   | <del>Anasuya</del>   |
| 34. | P15KM22S103009 | MISBA PATIL                | <del>Misba</del>     | <del>Misba</del>     | <del>Misba</del>     | <del>Misba</del>     | <del>Misba</del>     |
| 35. | P15KM22S103007 | SWATI MATHAPATI            | <del>Swati</del>     | <del>Swati</del>     | <del>Swati</del>     | <del>Swati</del>     | <del>Swati</del>     |
| 36. | P15KM22S103006 | MAHAMMAJAKARIYA GADYAL     | <del>Mahamma</del>   | <del>Mahamma</del>   | <del>Mahamma</del>   | <del>Mahamma</del>   | <del>Mahamma</del>   |
| 37. | P15KM22S103019 | AKSHATA MALAJI             | <del>Akshata</del>   | <del>Akshata</del>   | <del>Akshata</del>   | <del>Akshata</del>   | <del>Akshata</del>   |
| 38. | P15KM22S103005 | NIHARIKA V GOUDAR          | <del>Niharika</del>  | <del>Niharika</del>  | <del>Niharika</del>  | <del>Niharika</del>  | <del>Niharika</del>  |
| 39. | P15KM22S103017 | SHWETA MALLIKARJUN HATTI   | <del>Shweta</del>    | <del>Shweta</del>    | <del>Shweta</del>    | <del>Shweta</del>    | <del>Shweta</del>    |
| 40. | P15KM22S103018 | SHESHADRI R HIREMATH       | <del>Sheshadri</del> | <del>Sheshadri</del> | <del>Sheshadri</del> | <del>Sheshadri</del> | <del>Sheshadri</del> |
| 41. | P15KM22S103010 | ROHIT KHOT                 | <del>Rohit</del>     | <del>Rohit</del>     | <del>Rohit</del>     | <del>Rohit</del>     | <del>Rohit</del>     |
| 42. | P15KM22S103020 | LAXMI BAKALI               | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     | <del>Laxmi</del>     |
| 43. | P15KM22S103011 | SURAJKUMAR PATIL           | <del>Suraj</del>     | <del>Suraj</del>     | <del>Suraj</del>     | <del>Suraj</del>     | <del>Suraj</del>     |
| 44. | P15KM22S103021 | ASHWINI DESHPANDE          | <del>Ashwini</del>   | <del>Ashwini</del>   | <del>Ashwini</del>   | <del>Ashwini</del>   | <del>Ashwini</del>   |

|     |                |                            |           |           |           |           |           |
|-----|----------------|----------------------------|-----------|-----------|-----------|-----------|-----------|
| 45. | P15KM22S103013 | SIDDU ALDI                 | Siddu     | Siddu     | Siddu     | Siddu     | Siddu     |
| 46. | P15KM22S103004 | NETRAVATI B GOUNDI         | Netra     | Netra     | Netra     | Netra     | Netra     |
| 47. | P15KM22S103014 | SOUNDARYA KOTABAGI         | Sounda    | Sounda    | Sounda    | Sounda    | Sounda    |
| 48. | P15KM22S103012 | PALLAVI S SANTI            | Pallavi   | Pallavi   | Pallavi   | Pallavi   | Pallavi   |
| 49. | P15KM22S103001 | SHWETA SULPI               | Shweta    | Shweta    | Shweta    | Shweta    | Shweta    |
| 50. | P15KM22S103022 | RAKESH CHOUGALA            | Rakesh    | Rakesh    | Rakesh    | Rakesh    | Rakesh    |
| 51. | P15KM23S103001 | PREKSHA R. BENDAWADE       | Preksha   | Preksha   | Preksha   | Preksha   | Preksha   |
| 52. | P15KM23S103002 | MAHALSHMI MALLYAPPAGOL     | Maha      | Maha      | Maha      | Maha      | Maha      |
| 53. | P15KM23S103003 | ABHISHEK D ASHTEKAR        | Abhishek  | Abhishek  | Abhishek  | Abhishek  | Abhishek  |
| 54. | P15KM23S103004 | VADIRAJ B KULAKARNI        | Vadira    | Vadira    | Vadira    | Vadira    | Vadira    |
| 55. | P15KM23S103005 | KAVYA HAMPANAGOUDRA        | Kavya     | Kavya     | Kavya     | Kavya     | Kavya     |
| 56. | P15KM23S103007 | MADAN CHANDARGI            | Madan     | Madan     | Madan     | Madan     | Madan     |
| 57. | P15KM23S103008 | VISHALGOUDA R PATIL        | Vishal    | Vishal    | Vishal    | Vishal    | Vishal    |
| 58. | P15KM23S103009 | YUVARAJ S BAGALI           | Yuvaraj   | Yuvaraj   | Yuvaraj   | Yuvaraj   | Yuvaraj   |
| 59. | P15KM23S103010 | MALLIKARJUN S KUMBAR       | Mallika   | Mallika   | Mallika   | Mallika   | Mallika   |
| 60. | P15KM23S103011 | MAHASHWETADEVI S MASHETTI  | Maha      | Maha      | Maha      | Maha      | Maha      |
| 61. | P15KM23S032004 | PRIYANKA BHUSHETTI         | Priyanka  | Priyanka  | Priyanka  | Priyanka  | Priyanka  |
| 62. | P15KM23S032001 | AFREEN M DAKHANI           | Afreen    | Afreen    | Afreen    | Afreen    | Afreen    |
| 63. | P15KM23S032008 | BHAVANA SADASHIV HAVALAKOD | Bhavana   | Bhavana   | Bhavana   | Bhavana   | Bhavana   |
| 64. | P15KM23S032007 | TEJASHWINI S DASHYAL       | Tejash    | Tejash    | Tejash    | Tejash    | Tejash    |
| 65. | P15KM23S032010 | SWATI RAJU KOLI            | Swati     | Swati     | Swati     | Swati     | Swati     |
| 66. | P15KM23S032005 | SHRIDHAR SIDDAPPA AIHOLLI  | Shridhar  | Shridhar  | Shridhar  | Shridhar  | Shridhar  |
| 67. | P15KM23S032013 | ABHISHEK MAHADEV MUKKUND   | Abhishek  | Abhishek  | Abhishek  | Abhishek  | Abhishek  |
| 68. | P15KM23S032009 | SOUMYA MAHESH KAVERI       | Soumya    | Soumya    | Soumya    | Soumya    | Soumya    |
| 69. | P15KM23S032006 | SHREESHAIL R DHANAGOND     | Shreshail | Shreshail | Shreshail | Shreshail | Shreshail |
| 70. | P15KM23S032003 | SUSMITA KAMAGOUDA PATIL    | Susmita   | Susmita   | Susmita   | Susmita   | Susmita   |
| 71. | P15KM23S032002 | VAIBHAVI RACHAPPA KARNI    | Vaibhavi  | Vaibhavi  | Vaibhavi  | Vaibhavi  | Vaibhavi  |
| 72. | P15KM23S032014 | SUBHAS BIRADAR             | Subhas    | Subhas    | Subhas    | Subhas    | Subhas    |

|     |                |                             |                  |                  |                  |                  |                  |
|-----|----------------|-----------------------------|------------------|------------------|------------------|------------------|------------------|
| 73. | P15KM23S032015 | MUHAMMEDSUFIIYAN N JAKATI   | <u>M Jakati</u>  | <u>M Jakati</u>  | <u>M Jakati</u>  | <u>M Jakati</u>  | <u>M Jakati</u>  |
| 74. | P15KM23S032016 | VAISHNAVI DESHPANDE         | <u>Vaishnavi</u> | <u>Vaishnavi</u> | <u>Vaishnavi</u> | <u>Vaishnavi</u> | <u>Vaishnavi</u> |
| 75. | P15KM23S032017 | SWATI P HIREMATH            | <u>Swati</u>     | <u>Swati</u>     | <u>Swati</u>     | <u>Swati</u>     | <u>Swati</u>     |
| 76. | P15KM23S032018 | KEERTI SHIVALING JAMBAGI    | <u>Keerti</u>    | <u>Keerti</u>    | <u>Keerti</u>    | <u>Keerti</u>    | <u>Keerti</u>    |
| 77. | P15KM23S032020 | PRATEEK SHIVALINGAPPA JEEBI | <u>P.T</u>       | <u>P.T</u>       | <u>P.T</u>       | <u>P.T</u>       | <u>P.T</u>       |
| 78. | P15KM23S032012 | YALLAPPA KATTIMANI          | <u>Y</u>         | <u>Y</u>         | <u>Y</u>         | <u>Y</u>         | <u>Y</u>         |
| 79. | P15KM23S032019 | ROHINI SIDDAPPA YAKKELI     | <u>R</u>         | <u>R</u>         | <u>R</u>         | <u>R</u>         | <u>R</u>         |
| 80. | P15KM23S032011 | VIRESH RUÐRAPPÀ KALE        | <u>V.R.K</u>     | <u>V.R.K</u>     | <u>V.R.K</u>     | <u>V.R.K</u>     | <u>V.R.K</u>     |
| 81. | P15KM23S032024 | PRADEEP BIRADAR             | <u>P</u>         | <u>P</u>         | <u>P</u>         | <u>P</u>         | <u>P</u>         |

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