

Publications

Journals

1. Characterisation of spray pyrolysed indium sulfide thin films
Teny Theresa John, S. Bini, Y. Kashiwaba, T. Abe, Y. Yasuhiro, C. Sudha Kartha and K. P. Vijayakumar
Semiconductor Science and Technology **18** (2003) 491-500
2. CuInS₂ films using repeated chemical spray pyrolysis
Teny Theresa John, K. C. Wilson, P. M. Ratheesh Kumar, C. Sudha Kartha, K. P. Vijayakumar, Y. Kashiwaba, T. Abe and Y. Yasuhiro
Physics Status Solidi (a) **202 (1)** (2005) 79-84
3. CuInS₂/In₂S₃ thin film solar cell using spray pyrolysis technique having 9.5% efficiency
Teny Theresa John, Meril Mathew, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba
Solar Energy Materials and Solar Cells (in press)
4. Characterization of CuInS₂ based Cd-free thin film solar cell prepared using chemical spray pyrolysis technique
Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba
Journal of Physics D: Applied Physics (under revision)
5. Preparation of indium sulfide thin films by spray pyrolysis using a new precursor indium nitrate

Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba

Applied Surface Science (under revision)

6. Observation of phase transitions in chemical bath deposited copper selenide thin films through conductivity studies

Rupa R Pai, **Teny Theresa John**, M. Lakshmi, K. P. Vijayakumar and C. Sudha Kartha

Thin Solid Films **473** (2) (2004) 208-212

7. Defect characterization of spray pyrolysed β - In_2S_3 thin film using Thermally Stimulated Current Measurements

Rupa R Pai, **Teny Theresa John**, Y. Kashiwaba, T. Abe, K. P. Vijayakumar and C. Sudha Kartha

Journal of Material Science **39** (2004) 1-6

Papers Communicated

1. Modification in cell structure necessary for better performance of all sprayed $\text{CuInS}_2/\text{In}_2\text{S}_3$ thin film solar cell

Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba

Communicated to Applied Physics A

2. Structural, optical and stoichiometric studies of CuInS_2 thin films prepared from chloride and nitrate based precursor solutions

Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, Y. Kashiwaba and T. Abe

Communicated to Thin Solid Films

3. Effect of variation in stoichiometry and precursor solutions on electrical properties of CuInS_2 films prepared using CSP technique

Teny Theresa John, C. Sudha Kartha and K. P. Vijayakumar

Communicated to Materials Research Bulletin

4. PL studies on $\beta\text{-In}_2\text{S}_3$ thin films prepared using CSP technique

R. Jayakrishnan, **Teny Theresa John**, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba

Communicated to J. Luminescence

5. Effects of post deposition annealing on structural, electrical and optical properties of evaporated $\beta\text{-In}_2\text{S}_3$ thin films

P. M. Ratheesh Kumar, **Teny Theresa John**, C. Sudha Kartha and K. P. Vijayakumar

Communicated to J. Vacuum Science and Technology A

Conference Papers:

International

1. Characterisation of spray pyrolysed $\beta\text{-In}_2\text{S}_3$ thin films with different In/S ratio

Teny Theresa John, S. Bini, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba

Proc. International Symposium on Recent Advances in Inorganic Materials

(RAIM- 2002) IIT Bombay Mumbai (2002) 106 (**presented**)

2. Effect of variation of indium on structural and optical properties of indium sulfide thin films

Teny Theresa John, K. P. Vijayakumar, C. Sudha Kartha, T. Abe and Y. Kashiwaba

Proc. World Conference on Photovoltaic Energy Conversion (WCPEC-3) Osaka, Japan 1P-C3-24 (2003) **(presented)**

3. XPS investigations on CuInS₂ solar cell having In₂S₃ buffer layer

Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba

Proc. The 12th International Conference on Solid Films and Surfaces (ICSFS-12), Hamamatsu, Japan (2004) 101 **(presented)**

4. A novel cadmium free buffer layer for CIS based sprayed solar cells-An attempt

K. P. Vijayakumar, **Teny Theresa John** and C. Sudha Kartha

19th European Photovoltaic Solar Energy Conference and Exhibition, Paris, France (2004)

5. CuInS₂/In₂S₃ thin film solar cell prepared entirely using CSP technique

Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, Y. Kashiwaba and T. Abe

International Conference on the Physics, Chemistry and Engineering of Solar Cells (SCCELL- 2004), Badajoz, Spain

6. Indium sulfide thin films prepared using CSP technique

Teny Theresa John, C. Sudha Kartha and K. P. Vijayakumar

The 2nd International Conference on Technological Advances of Thin Films and

Surface Coatings (Thin Films 2004), Singapore

National

1. Preparation of CuInS₂ thin films using multiple spray pyrolysis technique
Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba
MRSI Theme Symposium, Banarus Hindu University, Varanasi (2004)
2. CuInS₂ based solar cell with In₂S₃ buffer layer having 9.5% efficiency
Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y. Kashiwaba
DAE Solid State Symposium, GNDU University, Amritsar (2004)
3. Deposition and characterization of β -In₂S₃ prepared using Successive Ionic Layer Adsorption and Reaction
R. Ranjith, **Teny Theresa John**, C. Sudha Kartha and K. P. Vijayakumar
MRSI Theme Symposium: Novel Polymeric Materials BARC, Mumbai (2003)
4. β - Indium sulfide thin films prepared using SILAR and CSP: A Comparison
R. Ranjith, **Teny Theresa John**, C. Sudha Kartha and K. P. Vijayakumar
DAE Solid State Symposium, Jiwaji University, Gwalior (2003)
5. Thermally stimulated current measurements on β -In₂S₃ thin films
Rupa R Pai, **Teny Theresa John**, P. M. Ratheesh Kumar, K. P. Vijayakumar and C. Sudha Kartha
MRSI Theme Symposium, Banarus Hindu University, Varanasi (2004)

6. Temperature dependent dark conductivity measurements on In_2S_3 thin films
K. C. Wilson, **Teny Theresa John**, C. Sudha Kartha and K. P. Vijayakumar
MRSI Theme Symposium, Banarus Hindu University, Varanasi (2004)

7. An observation on the effect on traps in $\beta\text{-In}_2\text{S}_3$ thin films by varying the thermally stimulated current measurement parameters
Rupa R Pai, **Teny Theresa John**, P. M. Ratheesh Kumar, K. P. Vijayakumar and C. Sudha Kartha
MRSI Theme Symposium, Banarus Hindu University, Varanasi (2004)

8. Effect of 120 keV nitrogen ion implantation on In_2S_3 thin films
K. C. Wilson, **Teny Theresa John**, P. Magudapathi, K. G. M. Nair, C. Sudha Kartha and K. P. Vijayakumar
DAE Solid State Symposium, GNDU University, Amritsar (2004)

9. Low temperature PL studies on sprayed $\beta\text{-In}_2\text{S}_3$ thin films
R. Jayakrishnan, **Teny Theresa John**, C. Sudha Kartha and K. P. Vijayakumar
DAE Solid State Symposium, GNDU University, Amritsar (2004)

10. SHI induced modifications in spray pyrolysed $\beta\text{-In}_2\text{S}_3$ thin films
P. M. Ratheesh Kumar, **Teny Theresa John**, C. Sudha Kartha, K. P. Vijayakumar and D. K. Avasthi
Indo- German Workshop on Synthesis and Modification of Nano Structured Materials by Energetic Ion Beams (NANO- 2005) NSC. New Delhi (2005)

11. **Structural and electrical characterisation of copper selenide thin films prepared using chemical bath deposition**
Rupa R Pai, Teny Theresa John, M. Lakshmi, S. Bini, K. Bindu, K. P. Vijayakumar and C. Sudha Kartha
Workshop on Complete Cycle Characterization of Materials (CCM-2001)
IGCAR, Kalpakkam (2001)

12. **Effect of stoichiometric variation on band gap of copper selenide thin films**
Teny Theresa John, M. Lakshmi, C. Sudha Kartha and K. P. Vijayakumar
National Conference on Thin Film Techniques and Applications (NACTTA-2002) P S G College of Arts and Science, Coimbatore (2002)

13. **Studies on spray pyrolysed indium sulfide thin films at different substrate temperatures**
Teny Theresa John, C. Sudha Kartha, K. P. Vijayakumar, T. Abe and Y.Kashiwaba
National Conference on Recent Advances in Material Science (NCMS-2002)
Nehru Memorial College, Thiruchirappalli (2002)

14. **Characterisation of In_2S_3 and ZnO thin films for photovoltaic application using photothermal deflection technique**
M. Paulraj, S. Ramkumar, Teny Theresa John, P. M. Ratheesh Kumar, C. Sudha Kartha, K.P. Vijayakumar and K. G. M. Nair
Regional Conference on Photoacoustics in Condensed Matter Physics and NDT, Madurai (2004)