



**CURRICULUM VITÆ**

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## CURRICULUM VITAE

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A/P: Machanur,  
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### ACADEMIC CREDENTIALS

**M. Sc. in Physics, 2004**

Shivaji University, Kolhapur 416 004 India

With First division (Specialization – Energy Studies)

**B. Sc. in Physics (Three year degree course), 2002**

Shivaji University, Kolhapur – 416 004, India

With first division (Physics, Mathematics, and Chemistry)

**Title of Ph.D Thesis:** "Studies on Synthesis and Microwave Properties of TI-Based Superconducting Films"

### RESEARCH EXPERIENCE

5 Years Research Experience

**Senior Research Fellow (CSIR-SRF)**, Council of Scientific and Industrial Research, New Delhi, 1<sup>st</sup> April 2008 onwards.

**Senior Research Fellow (SRF)** on Council of Scientific and Industrial Research (CSIR), New Delhi, funded project entitled "Soft Electrochemical Processing and Microwave properties of MgB<sub>2</sub> and Ba<sub>1-x</sub>K<sub>x</sub>BiO<sub>3</sub> Superconductivity films." (1<sup>st</sup> April 2007 to 31<sup>st</sup> March 2008).

**Senior Research Fellow (SRF)** on Defense Research Development Organization (DRDO), New Delhi, funded project entitled "Microwave properties of MgB<sub>2</sub> Superconducting films." (28<sup>th</sup> June 2006 to 31<sup>st</sup> March 2007).

**Junior Research Fellow (JRF)** on DRDO funded project entitled "Microwave properties of MgB<sub>2</sub> Superconducting films" (28<sup>th</sup> June 2004 to 27<sup>th</sup> June 2006).

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## LIST OF PUBLICATIONS

### Journals

1. **R. S. Kalubarme**, P. M. Shirage and S. H. Pawar, "Electrochemical processing of Tl-based superconducting films on different hereto-structures" *J. Alloys and Compounds* 461 (2008) 661–666
2. **R. S. Kalubarme**, M. B. Kadam and S. H. Pawar, "Microstructure Dependent Microwave Properties of Spray Deposited Tl-Ba-Ca-Cu-O Films" *J. Alloys and Compounds* (2009), doi:10.1016/j.jallcom.2009.01.078
3. P. M. Shirage, D. D. Shivagan, **R. S. Kalubarme**, V. Ganesan and S. H. Pawar, "The Nucleation and Growth Mechanism of the Electrodeposition of  $Tl_2Ba_2Ca_2Cu_3O_{10}$  superconducting Thin Films on Al-substrate", *Supercond. Sci. & Tech.* 21 (2008) 065009
4. F. I. Shaikh, **R. S. Kalubarme** and S. H. Pawar, "Studies on Sintering of Solid State Synthesized  $Ba_{1-x}K_xBiO_{3-\delta}$  superconducting phase", *Applied Surface Science* 254 (2008) 5772–5775.
5. **R. S. Kalubarme**, K. P. Shinde and S. H. Pawar, "Soft Electrochemical processing of MnAs thin films for magnetic Refrigeration", *Indian Journal of Cryogenics*, 31 (2007) 126.
6. K. M. Subhedar, R. S. Hyam, M. B. Kadam, **R. S. Kalubarme**, B. B. Sinha and S. H. Pawar "Substrate dependent growth studies of  $MgB_2$  films by electrocrystallization" *Physica C* 450, (2006) 66 - 70.
7. M. B. Kadam, B.B. Sinha, **R.S. Kalubarme** and S. H. Pawar, "Transformation of  $MgB_2$  powder into thin films by Electrophoretic deposition" *J. Alloys Compd.* (2008), doi:10.1016/j.jallcom.2008.11.124
8. **R. S. Kalubarme** and S. H. Pawar, "Electrospinning of Nanofibres for Medical Applications: A Review" *MJDYPU 2* (2008) 8-13.
9. **R. S. Kalubarme**, P.M. Shirage, A. Iyo, M. B. Kadam, B.B. Sinha and S. H. Pawar, "Magnetic Properties of  $Bi_2Sr_2CaCu_2O_y$  Ceramics Synthesized using Nitrate Precursors" *J Chemistry and Physics* (Submitted) 2008

### Proceedings

1. **R. S. Kalubarme** and S. H. Pawar, "Synthesis and Microwave Properties of Tl-Ba-Ca-Cu-O Thick Films" 52<sup>nd</sup> DAE-SSPS, Mysore University, Mysore (27<sup>th</sup> -31<sup>st</sup> Dec 2007), 691
2. **R. S. Kalubarme** and S. H. Pawar, "Microwave properties of Spray deposited Tl-Ba-Ca-Cu-O films" ICAMA, Shivaji University, Kolhapur 15<sup>th</sup> – 17<sup>th</sup> Nov. 2007

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3. R. S. Kalubarme, K. M. Subhedar, M. B. Kadam and S. H. Pawar, "Electrochemical synthesis of  $Ba_{1-x}K_xBiO_3$  Thin Films", 51<sup>st</sup> DAE-SSPS Barkatullah University, Bhopal, 26<sup>th</sup> Dec – 30<sup>th</sup> Dec 2006
  4. K. M. Subhedar, R. S. Hyam, M.B. Kadam, R. S. Kalubarme, B.B. Sinha and S. H. Pawar, "Synthesis of superconducting  $MgB_2$  films on  $Al_2O_3$  substrates by electrocrystallization" 51<sup>st</sup> DAE-SSPS Barkatullah University, Bhopal, 26<sup>th</sup> Dec – 30<sup>th</sup> Dec 2006
  5. K. M. Subhedar, R. S. Hyam, M. B. Kadam, R. S. Kalubarme, B. B. Sinha and S. H. Pawar, "Substrate dependent growth studies of  $MgB_2$  films by electrocrystallization", ISMC-06, BARC Mumbai, 4<sup>th</sup> – 8<sup>th</sup> Dec. 2006
  6. R. S. Kalubarme, K. M. Subhedar, M. B. Kadam and S. H. Pawar, "Structural Properties of Electrochemically synthesized  $Ba_{1-x}K_xBiO_3$  Films", ISMC-06, BARC Mumbai 4<sup>th</sup> – 8<sup>th</sup> Dec. 2006
  7. R. S. Kalubarme, P. M. Shirage, A. B. Jadhav and S. H. Pawar, "Unusual I-V Characteristics of Tl-2223/Al Hetero-nano Structures at Different Temperatures", National Seminar on Science and Technology of Thin Films, (2004), 228

#### **PAPERS PRESENTED AT CONFERENCES**

1. R. S. Kalubarme, M.B. Kadam, B.B. Sinha and S. H. Pawar, "Microwave properties of electrochemically deposited Tl-2223 films", ICNAMA, Shivaji University, Kolhapur 8<sup>th</sup> – 10<sup>th</sup> Dec 2008.
2. R.S. Kalubarme, M.B. Kadam, F. I. Shaikh, and S. H. Pawar, "Microwave Properties of Spray Pyrolytic Deposited TlBaCaCuO Films" IC-BENT, D. Y. Patil University, Kolhapur 21<sup>st</sup>-23<sup>rd</sup> Oct 2008.
3. K.P.Shinde, R.S.Kalubarme and S. H. Pawar, "Synthesis of nanocrystalline  $La_{0.65}Sr_{0.35}MnO_3$  and their magnetic properties" ICNAMA 2008, Shivaji University Kolhapur 9<sup>th</sup> -11<sup>th</sup> Dec 2008
4. B. B. Sinha, M. B. Kadam, R. S. Kalubarme and S. H. Pawar, "M-H response of carbon doped  $MgB_2$  superconductor synthesized under ambient environment" ICNAMA 2008, Shivaji University Kolhapur 9<sup>th</sup> -11<sup>th</sup> Dec 2008
5. M.B. Kadam, B.B. Sinha, R.S. Kalubarme and S.H. Pawar, "Studies on electrophoretic deposition of  $MgB_2$  coils and their superconducting properties", ICNAMA 2008, Shivaji University Kolhapur 9<sup>th</sup> -11<sup>th</sup> Dec 2008
6. P M Shirage, D D Shivagan, R S Kalubarme, V Ganesan and S H Pawar, "Nucleation and Growth Mechanism Of Electrodeposition of  $Tl_2Ba_2Ca_2Cu_3O_{10}$

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- Superconducting Thin Films On Al-Substrate" IC-BENT, D. Y. Patil University, Kolhapur 21<sup>st</sup> -23<sup>rd</sup> Oct 2008.
7. M.B.Kadam, B. B. Sinha, **R. S. Kalubarme** and S. H. Pawar, "Studies on synthesis of MgB<sub>2</sub> superconducting wires for MRI applications" IC-BENT, D. Y. Patil University, Kolhapur 21<sup>st</sup> -23<sup>rd</sup> Oct 2008.
  8. S. S. Pawar, K. P. Shinde, R. S. Joshi, **R. S. Kalubarme**, A. G. Bhosale and S. H. Pawar, "Combustion Synthesis of porous Sm<sub>0.5</sub>Sr<sub>0.5</sub>CoO<sub>3</sub> using Polyvinyl Alcohol", IC-BENT, D. Y. Patil University, Kolhapur 21<sup>st</sup> -23<sup>rd</sup> Oct 2008.
  9. **R. S. Kalubarme**, K. M. Subhedar, M. B. Kadam, A. I. Inamdar and S. H. Pawar, "Synthesis of superconducting Ba<sub>1-x</sub>K<sub>x</sub>BiO<sub>3</sub> thin films: Novel electrochemical route", ISEAST-8, NIO - Goa, 28<sup>th</sup> - 30<sup>th</sup> Nov. 2006
  10. V. D. Patil, **R. S. Kalubarme** and S. H. Pawar, "Harvesting Energy from Dairy Waste Water in a 2-Chamber Microbial Fuel Cell", IUMRS-ICAM, Bangalore 8<sup>th</sup> Oct - 13<sup>th</sup> Oct 2007
  11. K. M. Subhedar, R. S. Hyam, M. B. Kadam, **R. S. Kalubarme**, V. Ganesan and S. H. Pawar, "Studies on growth mechanism in electrocrystallization of MgB<sub>2</sub> films", ISEAST-8, NIO - Goa, 28<sup>th</sup> - 30<sup>th</sup> Nov. 2006
  12. M. B. Kadam, R. S. Hyam, K. M. Subhedar, **R. S. Kaluharme**, A. I. Inamdar and S. H. Pawar, "Synthesis of MgB<sub>2</sub> thin films by electrophoresis technique", ISEAST-8, NIO - Goa, 28<sup>th</sup> - 30<sup>th</sup> Nov. 2006
  13. **R. S. Kalubarme** and S. H. Pawar, "Microstructure Dependent Microwave Properties of Tl-Ba-Ca-Cu-O films" National Seminar on Electroceramics, Sonapat 5-6 Nov 2007.
  14. **R. S. Kalubarme**, K. M. Subhedar, M. B. Kadam, B. B. Sinha and S. H. Pawar, "Microstructure Dependent Microwave Properties of Tl-Ba-Ca-Cu-O Thin Films", 18<sup>th</sup> AGM MRSI, NPL- New Delhi 12<sup>th</sup> to 14<sup>th</sup> Feb. 2007.
  15. **R. S. Kalubarme**, M. B. Kadam, K. M. Subhedar and S. H. Pawar, "Studies on Screen Printed Alumina Thick Films as substrate for Tl-Ba-Ca-Cu-O Films for Microwave Application", National Seminar on Materials for Advanced Technologies, 23-25 Jan. 2006.
  16. **R. S. Kalubarme**, M. B. Kadam, A. B. Jadhav and S. H. Pawar, "Substrate dependent Voltammogram Studies of Electrochemical Bath to Prepare Clusters of Tl-Ba-Ca-Cu in Thin Films" 16<sup>th</sup> AGM, MRSI NCL Pune, 10<sup>th</sup>-12<sup>th</sup> Feb. 2005.
  17. S. S. Pawar, **R. S. Kalubarme**, D. A. Bhise, A. U. Jadhav and S. H. Pawar, "Substrate Dependent Structural and Morphological Evolution of Sm<sub>0.5</sub>Sr<sub>0.5</sub>CoO<sub>3</sub> Thick Films by Spray Pyrolysis", 19<sup>th</sup> AGM MRSI, SCTIMST, Thiruvananthapuram 14<sup>th</sup> to 16<sup>th</sup> Feb. 2008
  18. M. B. Kadam, R. S. Hyam, **R.S. Kalubarme**, B. B. Sinha and S. H. Pawar, "Single Step Electrophoretic Deposition of MgB<sub>2</sub> Films and Their Microwave Studies", 18<sup>th</sup> AGM MRSI NPL- New Delhi 12<sup>th</sup> to 14<sup>th</sup> Feb. 2007.
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19. B. B. Sinha, M. B. Kadam, R. S. Hyam, **R. S. Kalubarme**, K. M. Subhedar, and S. H. Pawar, "Charcoal assisted synthesis of superconducting MgB<sub>2</sub> samples." 18<sup>th</sup> AGM MRSI NPL- New Delhi 12<sup>th</sup> to 14<sup>th</sup> Feb. 2007.
  20. K. P. Shinde, V. P. Babar, M. P. Bhosale, **R. S. Kalubarme** and S. H. Pawar, "Electrochemical Synthesis of MnAs Thin Films", 18<sup>th</sup> AGM MRSI NPL- New Delhi 12<sup>th</sup> to 14<sup>th</sup> Feb. 2007.
  21. B. G. Mukane, S. B. Katkar, **R. S. Kalubarme** and S. H. Pawar, "Study of Jatropa wood As a High Energy Density Source", NCMRAT 2007, B.A.M. University, Aurangabad 29<sup>th</sup> -31<sup>st</sup> Jan 2007.
  22. P. M. Shirage, **R. S. Kalubarme**, R. B. Bagwan, D. D. Shivagan and S. H. Pawar, "Studies on the Nucleation and Growth Mechanism of the Al/Tl<sub>2</sub>Ba<sub>2</sub>Ca<sub>2</sub>Cu<sub>3</sub>O<sub>10</sub> Hetero-nano Structure" MRSI -15<sup>th</sup> AGM, Banaras Hindu University, Varanasi 9 -11 Feb. 2004.

#### **CONFERENCE / WORKSHOPS / SCHOOLS:**

1. Selected and Participated in "National workshop on Advanced Materials characterizations (NWMC)", 11<sup>th</sup> -15<sup>th</sup> Oct 2004 at BARC, Mumbai organized by Materials Research Society of India.
2. "National Seminar on Materials Processing and Characterization Techniques NS-MPCT", 28<sup>th</sup> -29<sup>th</sup> March 2005 at Shivaji University, Kolhapur
3. Selected and Participated "Analytical Instrumental Techniques", 29<sup>th</sup> Nov to 3<sup>rd</sup> Dec 2005 at Shivaji University Kolhapur
4. "National Seminar on Materials for Advanced Technologies (NASMAT)" 23<sup>rd</sup> -25<sup>th</sup> Jan 2006 at Shivaji University, Kolhapur
5. Selected and participated in state level workshop on "Wind Energy" Balasaheb Desai College, Patan, 3<sup>rd</sup> - 4<sup>th</sup> March 2007.
6. Participated in the International Indo-Korean workshop, Shivaji University, Kolhapur 9-11<sup>th</sup> Jan 2007.
7. Selected and Participated in the "Indo-Russian Workshop of Self Propagating High Temperature Synthesis", MRC, IISc Bangalore, 27<sup>th</sup> - 29<sup>th</sup> Nov. 2008.