

DEPARTMENT OF CHEMISTRY	
Name	Dr.S.Mithira
Designation	Associate Professor
Qualification	M.Sc.,M.Phil.,Ph.D
Date of Birth & Age as on 31-05-2024	04.05.1979 & 44
Working experience as on 31-05-2024	16yrs
Research experience: Field of interest/ Area of specialization	NIL
Research Scholars	Nil
Details of Papers/Books Published	1. National :01 2. International:14
Details of participation in conferences/seminar/Symposium	1. National :40 2. International:50
Details of conferences/ workshop/Seminars/Symposium organized	NIL
Awards and Achievements	RGNF awarded in 2005
Administrative responsibilities in college	<ul style="list-style-type: none"> <li>• Member in SC/ST cell from 2019 onwards</li> <li>• Acting as a NSS Program Officer</li> </ul>
Membership in Academic/Professional bodies	NIL
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Other information, if any	NIL

## Papers Published

1. **S. Mithira**, B. Natarajan, S. Deepa and P. SambasivaRao, Anisotropic behavior of Cu(II) in Diaquamalonatozinc(II) with low hyperfine coupling constant, *J. Mol. Struct.* 839(2007) 2-9.
2. K. Chinnam Naidu, C. Shiyamala, **S. Mithira**, B. Natarajan, R. Venkatesan and P. SambasivaRao, Effect of Jahn-Teller ion in Zinc Sodium SulphateHexahydrate: A case of low hyperfine coupling constant for Cu(II) ion, *Radiat. Eff. Defects Solids*, 160 (2005) 225 - 235.
3. S. Deepa, B. Natarajan, **S. Mithira**, K. Velavan and P. SambasivaRao, Single crystal EPR investigation of Mn(II) doped biomineral Cobalt Ammonium Phosphate Hexahydrate: A Case of Multiple Substitutions, *Radiat. Eff. Defects Solids*, 160 (2005) 357 - 367.
4. C. Shiyamala, **S. Mithira**, B. Natarajan, R.V.S.S.N Ravikumar and P. SambasivaRao, Site determination of vanadyl impurity in Cadmium Sodium SulphateHexahydrate: Single Crystal EPR and Optical Studies, *Phys. Scr.* 74 (2006) 549 - 554.
5. B. Natarajan, S. Deepa, **S. Mithira** and P. SambasivaRao, The substitutional occupation of vanadyl ion in Diaquamalonatozinc(II)-single crystal EPR and powder optical studies, *Phys. Scr.* 76 (2007) 253 - 258.
6. B. Sankar, B. Natarajan, **S. Mithira**, H. Anandhalakshmi and P. SambasivaRao, Single crystal EPR study of Mn(II) doped Magnesium Rubidium SulphateHexahydrate: A case of interstitial site, *Cryst. Res. Technol.* 42 (2007) 173 - 179.
7. M. Chandrasekhar Rao, **S. Mithira**, B. Natarajan, H. Anandhalakshmi and P. SambasivaRao, Exhibition of low hyperfine coupling constant for Cu(II) in Magnesium Rubidium SulphateHexahydrate, *J. Phys. Chem. Solids*, 68 (2007) 305 - 310.
8. B. Natarajan, **S. Mithira**, S. Deepa, R.V.S.S.N. Ravikumar and P. SambasivaRao, Identification of doped paramagnetic vanadyl impurity in DipotassiumDiaquabis(malonato- $\kappa^2O, O'$ ) Zincate Dihydrate single crystal using EPR and Optical techniques, *Radiat. Eff. Defects Solids*, 161 (2006) 177 - 187.
9. B. Natarajan, **S. Mithira**, S. Deepa and P. SambasivaRao, EPR and Optical absorption studies of VO(II) in  $Zn(C_3H_3O_4)_2(H_2O)_2$  Single Crystals: An interstitial site, *J. Phys. Chem. Solids*, 68 (2007) 1995 - 2002.
10. B. Natarajan, **S. Mithira**, S. Deepa and P. SambasivaRao, Identification of a low hyperfine value and interstitial position of Copper impurity in Diaquabis[malonato(1-)- $\kappa^2O, O'$ ] Zinc(II) - Single Crystal EPR study, *J. Appl. Magn. Reson*, 35 (2008) 57-71.
11. S. DEEPA, B. NATARAJAN, **S. Mithira**, K. VELAVAN and P. SAMBASIVA RAO Single-crystal EPR investigation of Mn(II)-doped biomineral cobalt ammonium phosphate hexahydrate:a case of multiple substitutions,*Radiation Effects & Defects in Solids*Vol. 160, No. 8, August 2005, 357-367.
12. S. Vijay Anand; M. S. Pandian; S. Mithira; R. V. S. S. N. Ravikumar; P. SambasivaRao,EPR and optical absorption characteristics of sodic plagioclase from granite pegmatite in Kadavur, India, *Radiation Effects and Defects in Solids*, 164: 11, 726 - 736.

13. Identification of symmetry, structure and defects of dopant Mn(II) ions in  $Zn(C_3H_3O_4)_2(H_2O)_2$  by single crystal EPR technique, B. Natarajan, S. Mithira, P. SambasivaRao, *Solid State Sciences* 10 (2008) 1916-1923.
14. Interstitial Substitution of VO(II) in Hexaaquazinc(diaquabis(malonato)zincate): A Rare Observation, K. ArunPrasath Lingam, S. Mithira, Pillutla SambasivaRao, *Applied Magnetic Resonance*, (2010) 38 (3), 295-306.
15. Computational study on Molecular Structure, Vibrational Spectroscopic studies and analysis of 2-MethoxyBenzonitrile, C. Shiyamala and S. Mithira, *International Journal of Current Advanced Research*, Vol 7(2018) 2319-6505.

#### Conference / Seminar Participation:

1. Admixture of  $d_z^2$  with  $d_{x^2-y^2}$  state: Single crystal EPR Studies of Cu(II) doped Zinc Sodium Sulphate Hexahydrate, K. Chinnam Naidu, C. Shiyamala, S. Mithira, B. Natarajan, R. Venkatesan and P. SambasivaRao "6<sup>th</sup> CRSI National Symposium", IIT Kanpur, Feb 6-8, 2004, page no 180.
2. A case of interstitial position: Single crystal EPR study of Mn(II) in Cadmium Sodium Sulphate Hexahydrate, C. Shiyamala, S. Mithira, R. V. S. S. N. Ravikumar, R. Venkatesan and P. SambasivaRao "National Symposium on Current Trends In Inorganic Chemistry", Cochin University of Science and Technology, Kochi, Mar 15-17, 2004, page no 61.
3. Orthorhombic g and A tensors for VO(II) doped in Cadmium Sodium Sulphate Hexahydrate: Single crystal EPR study, C. Shiyamala, S. Mithira, R.V.S.S.N. Ravikumar, K. Velavan and P. SambasivaRao "National Seminar On Current Trends in Chemistry", Annamalai University, Chidambaram, March 24-25, 2004, page no 33.
4. Single crystal EPR studies of Cr(III) in Zinc Sodium Sulphate Hexahydrate: Identification of the D tensor along charge compensating vacancy, S. Mithira, C. Shiyamala, K. Chinnam Naidu, R. Venkatesan and P. SambasivaRao "National Seminar On Current Trends in Chemistry", Annamalai University, Chidambaram, March 24-25, 2004, page no 48.
5. Single crystal EPR studies of Cr(III) in Zinc Sodium Sulphate Hexahydrate: A case of two vacancies S. Mithira, C. Shiyamala, K. Chinnam Naidu, R. Venkatesan and P. SambasivaRao "4<sup>th</sup> Asia Pacific EPR/ESR Symposium", Indian Institute of Science & Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, November 21-25, 2004, page no 140.
6. Single crystal EPR study of VO(II) impurity in Magnesium Sodium Sulphate Hexahydrate, G. Girija, S. Mithira, C. Shiyamala, K. Velavan, R. Venkatesan and P. SambasivaRao "4<sup>th</sup> Asia Pacific EPR/ESR Symposium", Indian Institute of Science & Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, November 21-25, 2004, page no 86.
7. Effect of charge- compensating vacancy in Cr(III) doped Cadmium Sodium Sulphate Hexahydrate: A single crystal EPR study, S. Kamalakannan, C. Shiyamala, S. Mithira, K. Velavan, R. Venkatesan and P. SambasivaRao "4<sup>th</sup> Asia Pacific EPR/ESR Symposium", Indian Institute of Science & Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, November 21-25, 2004, page no 96.
8. Attended a "National Symposium on Electron Magnetic Resonance Spectroscopy" held on February 4-5, 2005 at Pondicherry University, Puducherry – 605 014.
9. Single crystal EPR study of Vanadyl ion in Zinc Sodium Sulphate Hexahydrate: A case of two Interstitial Vanadyl ions, S. Mithira, S. Deepa, B. Natarajan, and P. SambasivaRao "National Conference on Science and Technology of Advanced Materials" Pondicherry Engineering College, Puducherry, July 27-29, 2005, page 94.
10. EPR and Optical absorption studies of VO(II) doped Dipotassium Diaquobis(malonato- $\kappa^2O,O'$ ) Zincate(II) Dihydrate Single Crystal, B. Natarajan, S. Mithira, S. Deepa and P.

- SambasivaRao "National Conference on Science and Technology of Advanced Materials" Pondicherry Engineering College, Puducherry, July 27-29, 2005, page 96.
11. Electron paramagnetic resonance investigation of Mn(II) probe in Cobalt Ammonium Phosphate Hexahydrate single crystals. S. Deepa, **S. Mithira**, B. Natarajan and P. SambasivaRao "National Conference on Science and Technology of Advanced Materials" Pondicherry Engineering College, Puducherry, July 27-29, 2005, page 93.
  12. Structural study of Cu(II) doped Dipotassium diaquabis(malonato- $\kappa^2$  O, O') zincate(II) dihydrate complex using Electron Paramagnetic Resonance Technique - S. Deepa, **S. Mithira**, B. Natarajan and P. SambasivaRao, "National Academy of Sciences – Seventy-Fifth Annual Session" Pondicherry University, Puducherry, Dec. 8-9, 2005.
  13. Effect of charge compensating vacancies in Iron(III) doped Dipotassium Diaquabis(malonato- $\kappa^2$  O, O') Zincate(II) dihydrate complex using electron paramagnetic resonance technique, **S. Mithira**, S. Deepa, B. Natarajan and P. Sambasivarao, "National Academy of Sciences – Seventy-Fifth Annual Session" Pondicherry University, Puducherry, Dec. 8-9, 2005.
  14. The interstitial position of VO(II) in Diaquamalonatozinc(II) - EPR and Optical studies, B. Natarajan, S. Deepa, **S. Mithira**, P. SambasivaRao, "National Academy of Sciences – Seventy-Fifth Annual Session" Pondicherry University, Puducherry, Dec. 8-9, 2005.
  15. Anisotropic and Optical behavior of Cu(II) ion in Diaquamalonatozinc(II), **S. Mithira**, B. Natarajan, S. Deepa, R.V.S.S.N. Ravikumar and P. SambasivaRao "National Seminar on Novel Materials and Technologies" Sri Venkateswara University, Tirupati, February 17-18, 2006.
  16. Electron Paramagnetic Investigation of Mn(II) probe in Diaquamalonatozinc(II) single crystals by S. Deepa, B. Natarajan, S. Mithira and P. SambasivaRao, "National Seminar on Novel Materials and Technologies", Sri Venkateswara University, Tirupati, February 17-18, 2006.
  17. EPR and Optical absorption studies of Vanadyl impurity in Diaquabis[malonato(1-)- $\kappa^2$  O, O'] Zinc(II) single crystal" by B. Natarajan, **S. Mithira**, S. Deepa, R. V. S. S. N. Ravikumar, P. SambasivaRao, "National Seminar on Novel Materials and Technologies" Sri Venkateswara University, Tirupati, February 17-18, 2006.
  18. Site determination of vanadyl impurity in Cadmium Sodium Sulphate Hexahydrate: Single Crystal EPR and Optical Studies, C. Shiyamala, **S. Mithira**, B. Natarajan, R.V.S.S.N. Ravikumar, P. SambasivaRao "National Symposium on Electron Magnetic Resonance Spectroscopy" Pondicherry University, Puducherry, Mar 24- 25, 2005, OR-17.
  19. Electron Paramagnetic investigation of Mn(II) probe in Dipotassium Diaquabis(Malonato- $\kappa^2$  O, O') Zincate(II) Dihydrate single crystals, B. Natarajan, S. Deepa, **S. Mithira** and P. SambasivaRao "National Symposium on Electron Magnetic Resonance Spectroscopy" Pondicherry University, Puducherry, Mar 24- 25, 2005, OR-12.
  20. EPR characteristics of plagioclase feldspars from kadavar area, Tamil nadu, S. Viayanand, M. S. Pandian, **S. Mithira**, R.V. S. S. N. Ravikumar and P. SambasivaRao, "National Symposium on Electron Magnetic Resonance Spectroscopy" Pondicherry University, Puducherry, Mar 24- 25, 2005, OR-18.
  21. Interstitial Occupation of Mn(II) in Orthorhombic symmetry: A Single Crystal EPR Study, S. Deepa, B. Natarajan, **S. Mithira** and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, OR- 09.
  22. Single Crystal EPR Study of Fe(III) Doped Dipotassium diaquabis(malonato- $\kappa^2$  O, O') zincate(II) dehydrate: Population of Only One Kramers' Doublet, **S. Mithira**, B. Natarajan, S. Deepa and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, OR-23 .
  23. Identification of a Low Hyperfine Value and Interstitial Position for Copper(II) Impurity in Diaquabis[malonato(1-)-  $\kappa^2$  O, O') zinc(II): A Single Crystal EPR Study, B. Natarajan, **S. Mithira**, S. Deepa and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, OR-27.

24. XRD, FTIR, EPR, Study on the Growth of Mn Doped CdS Thin Film Using chemical bath deposition Method, G. Chandrasekaran, G. Praveenkumar, **S. Mithira** and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, PO- 11.
25. Interstitial Substitution of Mn(II) in Magnesium Rubidium SulphateHexahydrate: A Single Crystal EPR Study, B. Sankar, B. Natarajan, **S. Mithira**, H. Anandhalakshmi and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, PO- 58.
26. Single Crystal EPR Study of Copper(II) in Magnesium Rubidium SulphateHexahydrate: Low Hyperfine Coupling Constant, A. Chandrasekhar Rao, **S. Mithira**, B. Natarajan, H. Anandhalakshmi and P. SambasivaRao, "5<sup>th</sup> Asia Pacific EPR/ESR Symposium", Novosibirsk, Russia, August 24-27, 2006, PO-59.
27. Structural Elucidation of vanadyl and copper positions in Diaquabis [Malanato(1-)-  $\kappa^2$  O,O') zinc(II) – Single Crystal EPR Study, B. Natarajan, **S. Mithira** and P. SambasivaRao, University Industry Interface in Chemistry '07, Pondicherry University, Puducherry, Mar 23, 2007, page no 4.