

# Curriculum Vitae

## 1. Personal Information

**Name:** Boddapati Loukya Chowdary

**Nationality:** Indian

**Address:** Av. Mestre José Veiga, Braga 4715-330, Portugal

**Author name:** B. Loukya

## 2. Academic qualifications

### Research Fellow

Marie Curie COFUND action (NanoTRAINforgrowth II)  
International Iberian Nanotechnology Laboratory (INL), Braga  
November 2018 to current

### Post-doctoral researcher

Jawaharlal Nehru Center for Advanced Scientific Research  
Bangalore, India  
July 2015 to July 2016

### Ph.D. (Materials Science)

Jawaharlal Nehru Centre for Advanced Scientific Research  
Bangalore, India.  
Thesis dissertation: Electron Magnetic Circular Dichroism of Epitaxial Magnetic Thin Films at  
Nanoscale  
January 2010 to May 2016

### Master of Science (Physics)

Osmania University College of Science  
Hyderabad, India  
2006-2008

### Bachelor of Science (Mathematics, Physics and Electronics & Computer Sciences)

Osmania University College for Women  
Hyderabad, India  
2003-2006

## 3. Professional Career

### 3.1. Research Areas:

- Two-dimensional layered transition metal dichalcogenides

- Thin film and nanomaterials characterization by transmission electron microscopy imaging & spectroscopy
- Electron magnetic circular dichroism of magnetic thin films in TEM
- Nanoscale optical band gap measurements in spinel oxide thin films by TEM
- Epitaxial thin film growth by pulsed laser deposition and characterization

#### 4. Scientific Performance

Loukya Boddapati has published 24 peer-reviewed articles in the past 7 years in international journals with approx. 255 citations in total that translates to an h-index of 11.

(<https://scholar.google.com/citations?user=3eu0T24AAAAJ&hl=en>)

##### 4.1. List of publications

24. **B. Loukya**, D. S. Negi, K. Dileep, N. Pachauri, A. Gupta and R. Datta, Effect of Bloch wave electron propagation and momentum resolved signal detection on the quantitative and site specific electron magnetic circular dichroism of spinel oxide thin films, *Physical Review B*, **91** (2015) 134412.
23. K. Dileep, **B. Loukya**, P. Silwal, A. Gupta, and R. Datta, Probing optical band gaps at nanoscale from tetrahedral cation vacancy defects and variation of cation ordering in NiCo<sub>2</sub>O<sub>4</sub> epitaxial thin films, *Journal of Physics D: Applied Physics*, **47** (2014) 405001.
22. K. Dileep, **B. Loukya**, N. Pachauri, A. Gupta, and R. Datta, Probing optical band gaps at nanoscale in NiFe<sub>2</sub>O<sub>4</sub> and CoFe<sub>2</sub>O<sub>4</sub> epitaxial films by high resolution electron energy loss spectroscopy, *Journal of Applied Physics*, **116** (2014) 103505.
21. D. S. Negi, **B. Loukya**, K. Dileep, M. Kesaria, N. Kumar, and R. Datta, Characterization of structure and magnetism in Zn<sub>1-x</sub>(Co<sub>x</sub>/Mn<sub>x</sub>)O epitaxial thin films as a function of composition, *Superlattices and Microstructures*, **63** (2013) 289-297.
20. **B. Loukya**, D. S. Negi, K. Dileep, N. Kumar, J. Ghatak, and R. Datta, Giant anisotropy in ferromagnetic Co doped ZnO thin film, *Journal of Magnetism and Magnetic Materials*, **325** (2013) 159-164.
19. R. Datta, **B. Loukya**, N. Li, and A. Gupta, Structural features of epitaxial NiFe<sub>2</sub>O<sub>4</sub> thin films grown on different substrates by direct liquid injection chemical vapor deposition, *Journal of Crystal Growth*, **345** (2012) 44–50.
18. **B. Loukya**, X. Zhang, A. Gupta, and R. Datta, Electron magnetic chiral dichroism in CrO<sub>2</sub> thin films using monochromatic probe illumination in a transmission electron microscope, *Journal of Magnetism and Magnetic Materials*, **324** (2012) 3754–3761.
17. **B. Loukya**, P. Sowjanya, K. Dileep, R. Shipra, S. Kanuri, L. S. Panchakarla, and R. Datta, Controlling structural quality of ZnO thin film on c-plane sapphire during pulsed laser deposition, *Journal of Crystal Growth*, **329** (2011) 20–26.
18. H. Sharona, **B. Loukya**, U. Bhat, R. Sahu, B. Vishal, P. Silwal, A. Gupta, and R. Datta, Coexisting nanoscale inverse spinel and rock salt crystallographic phases in NiCo<sub>2</sub>O<sub>4</sub> epitaxial thin films grown by pulsed laser deposition, *Journal of Applied Physics*, **122** (2017) 225301.

15. U. Subbarao, S. Marakatti, K. Mungalimane, **B Loukya**, K. S. Dheeraj, R. Datta, C. Sebastian, Size and morphology controlled NiSe nanoparticles as efficient catalyst for the reduction reactions, *Journal of Solid State Chemistry*, 244 (2016) 84.
14. N. Bastola, Y. A. Sorb, **B Loukya**, S. Atanu, S. Anatoliy, R. Datta, S. Abhishek, C. Narayana, R. Ranjan, Interferroelectric transition as another manifestation of intrinsic size effect in ferroelectrics, *Physical Review B*, 94 (2016) 104104.
13. **B. Loukya**, D. S. Negi, R. Sahu, N. Pachauri, A. Gupta and R. Datta, Structural characterization of epitaxial  $\text{LiFe}_5\text{O}_8$  thin films grown by chemical vapor deposition, *Journal of Alloys and Compounds* 668 (2016) 187.
12. D. S. Negi, **B. Loukya**, and Ranjan Datta, Native defect induced charge and ferromagnetic spin ordering and coexisting electronic phases in CoO epitaxial thin film, *Applied Physics Letters*, 107 (2015) 232404.
11. M. Chhetri, M. Rana, **B. Loukya**, Pramod K. Patil, R. Datta, and Ujjal K. Gautam, Mechanochemical Synthesis of Free-Standing Platinum Nanosheets and Their Electrocatalytic Properties, *Advanced Materials*, 27 (2015) 4430.
10. N. Pachauri, B. Khodadadi, M. Althammer, A. V. Singh, **B. Loukya**, R. Datta, M. Iliev, L. Bezmaternykh, I. Gudim, T. Mewes and A. Gupta, Study of Structural and Ferromagnetic Resonance Properties of Spinel Lithium Ferrite ( $\text{LiFe}_5\text{O}_8$ ) Single Crystals, *Journal of Applied Physics*, 117 (2015) 233907.
9. D. S. Negi, **B. Loukya**, K. Ramasamy, A. Gupta, and R. Datta, Spatially resolved quantitative measurement of magnetic order in spinel  $\text{CuCr}_2\text{S}_4$  nanocrystals, *Applied Physics Letters*, 106 (2015) 182402.
8. A. K. Kalyani, D. Khatua, **B. Loukya**, R. Datta, A. N. Fitch, A. Senyshyn, and R. Ranjan, Metastable monoclinic and orthorhombic phases and electric field induced irreversible phase transformation at room temperature in the lead free classical ferroelectric  $\text{BaTiO}_3$ , *Physical Review B*, 91 (2015) 104104.
7. R. Moumita, C. Manjeet, **B. Loukya**, P. Pramod, R. Datta, and G. K. Ujjal, High-yield synthesis of sub-10 nm Pt nanotetrahedra with Bare  $\langle 111 \rangle$  facets for efficient electrocatalytic applications, *ACS Applied Materials & Interfaces*, 7 (2015) 4998.
6. D. S. Negi, A. Roy, **B. Loukya**, K. Dileep, S. Shetty, N. Kumar, P. S. Anil Kumar, and R. Datta, Epitaxial Co metal thin film grown by Pulsed Laser Deposition using oxide target, *Journal of Crystal Growth*, 394 (2014) 112-115.
5. R. Sahu, K. Dileep, **B. Loukya**, and R. Datta, Native defects affecting the Li atom distribution tune the optical emission of ZnO:Li epitaxial thin film, *Applied Physics Letters*, 104 (2014) 051908.
4. L. Shen, M. Althammer, N. Pachauri, **B. Loukya**, R. Datta, M. Iliev, N. Bao, and A. Gupta, Epitaxial growth of spinel cobalt ferrite films on  $\text{MgAl}_2\text{O}_4$  substrates by direct liquid injection chemical vapor deposition, *Journal of Crystal Growth*, 390 (2014) 61-66.
3. D. Negi, **B. Loukya**, K. Dileep, R. Sahu, S. Shetty, N. Kumar, J. Ghatak, N. Pachauri, A. Gupta, and R. Datta, Structural and magnetic characterization of mixed valence Co (II, III) $_{x}\text{Zn}_{1-x}\text{O}$  epitaxial thin films, *Journal of Magnetism and Magnetic Materials*, 354 (2014) 39-43.

2. D. S. Negi, **B. Loukya**, K. Dileep, R. Sahu, K. K. Nagaraja, N. Kumar, and R. Datta, Robust room temperature ferromagnetism in epitaxial CoO thin film, [Applied Physics Letters](#), **103** (2013) 242407.
1. M. N. Iliev, P. Silwal, **B. Loukya**, R. Datta, D. H. Kim, N. D. Todorov, N. Pachauri, and A. Gupta, Raman studies of cation distribution and thermal stability of epitaxial spinel NiCo<sub>2</sub>O<sub>4</sub> films, [Journal of Applied Physics](#), **114** (2013) 0333514.

## 7. Awards, Scholarships and Grants

- **International Travel Grant** supported by the Department of Science and Technology (DST), India, to attend the '2014 MRS Fall Meeting & Exhibit' held in Boston, USA.
- **International Travel Grant** support by Council of Scientific and Industrial Research (CSIR), India, to attend the '2014 MRS Fall Meeting & Exhibit' held in Boston, USA.
- Awarded **Senior Research Fellowship** (2012-2014) by JNCASR, supported by Department of Science and Technology (DST), India.
- Awarded **Junior Research Fellowship** (2010-2011) by JNCASR, supported by Department of Science and Technology (DST), India.
- Qualified in Graduate Aptitude Test in Engineering (GATE-2009) with **All India Rank 322**.
- Qualified in Joint Entrance Screening Test (JEST-2009) with **All India Rank 59**.