: FACULTY DETAILED RESEARCH DATA:

Name of the Faculty: Dr. Subhrajyoti Dey

Designation: Assistant Professor

Department: Department of Physics

School: School of Basic Science

Research Area: Experimental Condensed Matter Physics

Details of research portfolio of faculty:

A. Researcher's ID details:

Google Scholar ID: https://scholar.google.co.in/citations?user=Xw5a4DYAAAAJ&hl=en	**Orchid ID:** 0009-0002-2244-190X
Scopus ID: 55433027700	**Vidwan ID:** 475443

B. Publication details:

1. Conference proceedings/ Conference paper:

Sl. No.	Name of the Conference	Title of the paper	Month & Year of Publication	Author(s) Name	National/ International	doi number (if any)	ISSN/ISBN no.
1	International Conference on Functional Nano-Materials, 28-29 September, 2016	Superparamagnetic behavior of nanosized $ZnFe_2O_4$	April 2018	**S Dey**, R Mondal, S Majumder, P Dasgupta, A Poddar, S Banerjee, S Kumar	International	10.1016/j.matpr.2017.10.177	2214-7853
2	DAE SOLID STATE PHYSICS SYMPOSIUM 2017	Study on photocatalytic activity of nanosized $Co_{0.3}Zn_{0.7}Fe_2O_4$ synthesized by hydrothermal method	April 2018	R Mondal, K Sarkar, **S Dey**, S Bhattacharjee, CK Ghosh, S Kumar	National	10.1063/1.5028703	1551-7616
3	SOLID STATE PHYSICS: Proceedings of the 59th DAE Solid State Physics Symposium 2014	3D dendritic α-Fe_2O_3 nano-architectures: Synthesis and its application on electrochemical non-enzymatic	June 2015	S. Majumder, B. Saha, S. Dey, K. Bagani, M. K. Roy, S. K.Jana, S. Kumar, and S. Banerjee	National	10.1063/1.4917758	1551-7616

		H_2O_2 sensing					
4	SOLID STATE PHYSICS: Proceedings of the 59th DAE Solid State Physics Symposium 2014	Magnetic enhancement and coding in mechanosynthesized $Ni_{0.3}Zn_{0.7}Fe_2O_4$ nanoparticles	June 2015	S. Majumder, S. Dey, P. Dasgupta, A. Poddar, S. Banerjee, and S. Kumar	National	10.1063/1.4918183	1551-7616
5	SOLID STATE PHYSICS: Proceedings of the 59th DAE Solid State Physics Symposium 2014	Mechanical milling induced enhancement of magnetic and hyperfine properties of nanosized $Co_{0.3}Zn_{0.7}Fe_2O_4$	June 2015	R. Mondal, S. Dey, S. Singha, P. Dasgupta, A. Poddar, and S. Kumar	National	10.1063/1.4917751	1551-7616

2. Publications in SCI/Scopus indexed Journals:

Sl. No	Name of the Journal (mention SCI/scopus)	Title of the paper	Month & Year of Publication	Author(s) Name (Highlight the corresponding and 1st author in every article)	doi number	Issue No. &Volume No.	Page no.	ISSN of the journal
1	Materials Chemistry and Physics [Elsevier] (SCI)	Structural, microstructural, magnetic and hyperfine characterization of nanosized $Ni_{0.5}Zn_{0.5}Fe_2O_4$ synthesized by high energy ball-milling method	December 2012	**S. Dey**, S.K. Dey , B. Ghosh, V.R. Reddy, S. Kumar	10.1016/j.matchemphys.2012.12.067	Issue: 2-3 Volume: 138	833	1879-3312
2	Journal of Applied Physics [American Institute of Physics] (SCI)	Role of inhomogenious cation distribution in magnetic enhancement of nanosized $Ni_{0.35}Zn_{0.65}Fe_2O_4$: A structural, magnetic and hyperfine study	September 2013	**S. Dey**, S.K. Dey , B. Ghosh, P. Dasgupta, A. Poddar, V.R. Reddy, S. Kumar	10.1063/1.4819809	Issue: 9 Volume: 114	093901	1089-7550
3	Physica B: Condensed Matter [Elsevier] (SCI)	Superparamagnetic behavior of nanosized $Co_{0.2}Zn_{0.8}Fe_2O_4$ synthesized by a flow rate controlled chemical coprecipitation method	April 2014	**S. Dey**, S. K. Dey, S. Majumder, A. Poddar, P. Dasgupta, S. Banerjee, S. Kumar	10.1016/j.physb.2014.03.073	Issue: MagMA-2013 Volume: 448	247	1873-2135
4	Applied Physics Letters [American Institute of Physics] (SCI)	Overcoming inherent magnetic instability, preventing spin canting and magnetic coding in an assembly of ferrimagnetic nanoparticles	August 2014	**S. Dey**, S. K. Dey, K. Bagani, S. Majumder, A. Roychowdhury, S. Banerjee, V. R. Reddy, D. Das, S. Kumar	10.1063/1.4893028	Issue: 6 Volume: 105	063110	1077-3118

5	RSC Advances [Royal Society of Chemistry] (SCI)	Magnetic, X-ray and Mössbauer studies on magnetite/maghemite core–shell nanostructures fabricated through an aqueous route	November 2014	S. J. Iyengar, M. Joy, C. K. Ghosh, **S. Dey**, R. K. Kotnala and S. Ghosh	10.1039/C4RA11283K	Issue: 110 Volume: 4	64919	2046-2069
6	Dalton Transactions [Royal Society of Chemistry] (SCI)	A comparative study on the structural, optical and magnetic properties of Fe_3O_4 and $Fe_3O_4@SiO_2$ core–shell microspheres along with an assessment of their potentiality as electrochemical double layer capacitors	March 2015	S. Majumder, **S. Dey**, K. Bagani, S. K. Dey, S. Banerjee and S. Kumar	10.1039/C4DT02551B	Issue: 110 Volume: 44	7190	1477-9234
7	RSC Advances [Royal Society of Chemistry] (SCI)	Stable room temperature magnetic ordering and excellent catalytic activity of mechanically activated high surface area nanosized $Ni_{0.45}Zn_{0.55}Fe_2O_4$	September 2015	**S. Dey**, R. Gomez, R.Mondal, S. K. Dey, P. Dasgupta, A. Poddar, V. R. Reddy, A. Bhaumik and S. Kumar	10.1039/C5RA14773E	Issue: 96 Volume: 5	78508	2046-2069
8	Journal of Applied Physics [American Institute of Physics] (SCI)	Tuning magnetization, blocking temperature, cation distribution of nanosized $Co_{0.2}Zn_{0.8}Fe_2O_4$ by mechanical activation	September 2015	**S. Dey**, R. Mondal, S. K. Dey, S. Majumder, P. Dasgupta, A. Poddar, V. R. Reddy and S. Kumar	10.1063/1.4930801	Issue: 10 Volume: 118	103905	1089-7550
9	Journal of Alloys and Compounds [Elsevier] (SCI)	Synthesis, X-ray Rietveld analysis, infrared and Mössbauer spectroscopy of R_2FeSbO_7 (R3+=Y, Dy, Gd, Bi) pyrochlore solid solution	September 2015	Y. M. Jana, P. Halder, A. Ali Biswas, A. Roychowdhury, D. Das, **S. Dey** and S. Kumar	10.1016/j.jallcom.2015.09.194	Volume: 656	226	0925-8388
10	RSC Advances [Royal Society of Chemistry] (SCI)	Albumin matrix assisted wet chemical synthesis of nanocrystalline MFe_2O_4 (M= Cu, Co and Zn) ferrites for visible light driven degradation of methylene blue by hydrogen peroxide	June 2016	M. Saha, S. Mukherjee, S. Kumar, **S. Dey** and A. Gayen	10.1039/C6RA04825K	Issue: 63 Volume: 6	58125	2046-2069
11	RSC Advances [Royal Society of Chemistry] (SCI)	A highly sensitive non-enzymatic hydrogen peroxide and hydrazine electrochemical sensor based on 3D micro-snowflake architectures of α-Fe_2O_3	June 2016	S. Majumder, B. Saha, **S. Dey**, R. Mondal, S. Kumar and S. Banerjee	10.1039/C6RA10470C	Issue: 65 Volume: 6	59907	2046-2069
12	IEEE Sensors Journal [IEEE] (SCI)	Nanocrystalline CopperNickelZinc Ferrite: Efficient Sensing Materials for Ethanol and Acetone at Room Temperature	May 2017	C. Mukherjee, R. Mondal, S. Dey, S. Kumar and J. Das	10.1109/JSEN.2017.2684838	Issue: 9 Volume: 17	2662	1530-437X
13	Journal of Magnetism and Magnetic Materials [Elsevier] (SCI)	Study on magnetic and hyperfine properties of mechanically milled $Ni_{0.4}Zn_{0.6}Fe_2O_4$ nanoparticles	July 2017	R. Mondal, S. Dey, S. Majumder, A. Poddar, P. Dasgupta and S. Kumar	10.1016/j.jmmm.2017.07.031	Issue: ICMAGMA 2017 Volume:	138	1873-4766

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14	Materials Research Bulletin [Elsevier] (SCI)	Influence of high energy ball milling on structural parameters, cation distribution and magnetic enhancement of nanosized $Co_{0.3}Zn_{0.7}Fe_2O_4$	February 2018	R.Mondal, **S. Dey**, K. Sarkar, P. Dasgupta and S. Kumar	10.1016/j.materresbull.2018.02.016	Volume: 102	160	0025-5408
15	Journal of Magnetism and Magnetic Materials [Elsevier] (SCI)	Presence of mixed magnetic phase in mechanically milled nanosized $Co_{0.5}Zn_{0.5}Fe_2O_4$: A study on structural, magnetic and hyperfine properties	May 2019	K. Sarkar, R.Mondal, **S. Dey**, S. Majumder and S. Kumar	10.1016/j.jmmm.2019.165303	Volume: 487	165303	1873-4766
16	ACS Omega [American Chemical Society] (SCI)	Magnetic, Pseudocapacitive, and H_2O_2-Electrosensing Properties of Self-Assembled Superparamagnetic $Co_{0.3}Zn_{0.7}Fe_2O_4$ with Enhanced Saturation Magnetization	July 2019	R.Mondal, K. Sarkar, **S. Dey**, D. Majumdar, S. K. Bhattacharya, P. Sen and S. Kumar	10.1021/acsomega.9b01362	Issue: 7 Volume: 4	12632	2470-1343
17	Physica B: Condensed Matter [Elsevier] (SCI)	Cation vacancy and magnetic properties of $ZnFe_2O_4$ microspheres	January 2020	K. Sarkar, R.Mondal, **S. Dey** and S. Kumar	10.1016/j.physb.2020.412015	Volume: 583	412015	1873-2135
18	Physica B: Condensed Matter [Elsevier] (SCI)	Influences of crystal structure, microstructure and adsorbed CO_2 on dielectric properties of Ba_2YbSbO_6-$BaCO_3$ formed by mechanical activation of Ba_2YbSbO_6	October 2022	A. Barua, S. K. Dey, **S. Dey** and S. Kumar	10.1016/j.physb.2022.414449	Volume: 649	414449	1873-2135
19	Materials Today Communications [Elsevier] (SCI)	Influences of morphology, cation distribution and surface spin canting on magnetic and hyperfine properties of mechanically activated and subsequently heat treated nanosized $Co_{0.8}Zn_{0.2}Fe_2O_4$ exhibiting excellent catalytic activity	April 2024	K. Sarkar, M. Dutta, R. Mondal, **S. Dey**, S. Majumder, N. Sepay, U.C. Halder and S. Kumar	10.1016/j.mtcomm.2024.108953	Volume: 39	108953	2352-4928
20	Molecular Physics [Taylor & Francis] (SCI)	'Entanglement Transition' in a frustrated 4-spin plaquette system with multi spin interactions	February 2025	V. S. Gomes, A. Tribedi and **S. Dey**	10.1080/00268976.2025.2467175	Volume:	e2467175	1362-3028

3. Book chapter:

Sl. No.	Title of the book	Publishers	Author(s) Name (Highlight the corresponding and 1st author in every article)	Year	ISBN No.	doi no. (if applicable)
1	Quantum Entanglement and Decoherence: The Fragile Nature of Entangled States	S Sharda Global Research Publications	Victoria Sharmila Gomes, Amit Tribedi & Subhrajyoti Dey	2025	978-81-975037-1-9	10.62823/SSGRP/2025/9788197503719
2	Maintaining Quantum Discord in Noisy Environments: Implications for Quantum Communication	REYANSH GLOBAL RESEARCH FOUNDATION	Victoria Sharmila Gomes, Amit Tribedi & Subhrajyoti Dey	2025	978-81-974962-2-6	10.62823/RGRF/2025/9788197496226
3	Application of Manganese Ferrite Nanoparticles in Hyperthermia Treatment – A Short Review	REYANSH GLOBAL RESEARCH FOUNDATION	S. Dey	2025	978-81-974962-2-6	10.62823/RGRF/2025/9788197496226
4	Application of Mössbauer Spectroscopy for Study of Hyperfine and Magnetic Properties of Ferrite Nanoparticles	MGM PUBLISHING HOUSE	Subhrajyoti Dey	2025	978-93-49468-95-5	10.62823/MGM/2025/9789349468955
5	Synthesis and Gas Sensing Application of Zinc Oxide Nanoflowers – A Short Review	INSPIRA	Subhrajyoti Dey	2025	978-81-974427-1-1	10.62823/Inspira/2025/9788197442711
6	A Short Review on Magnetic Property of Nanosized Cobalt-Zinc Ferrites	AkiNik Publications	Subhrajyoti Dey	2024	978-93-6135-956-9	10.22271/ed.book.3064

4. Text/Reference book published from reputed national/international publishers:

Sl. No.	Title of the Text/Reference book	Publishers	Author(s) Name (Highlight the corresponding and 1st author in every article)	Year	ISBN No.	doi no. (if applicable)

5. Project granted:

Sl. No	Sponsoring Agency	Name of the project	Duration		Amount in Lakhs	PI/ CO-PI
			Starting Month & Year	Ending month & Year		

6. **Consultancy Project Grant:**

Sl No.	Project title	Funding Agency	Duration	Completed (yes/no)	Sanctioned amount (in Rs.)	PI and CO-PI (if any)

7. **Patent/IPR granted:**

Sl. No.	Name of the patent	Name of the applicant	Name of the inventor	Date of File	Date of Publication	Whether Granted (yes/no); If yes, Date of Grant	Application No.