

Dr. Kailash Nemade: Recent Advancements in the Spintronics Application of Carbon Nanotube

ISBN 978-81-953708-7-0

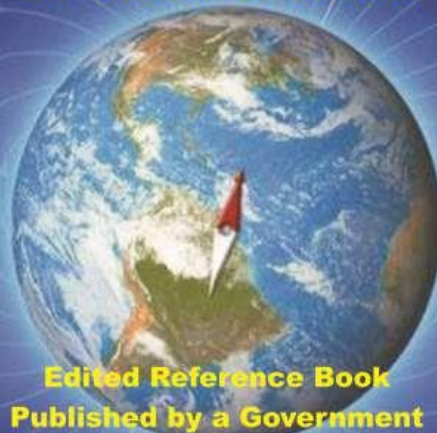


**Research
and
Development**

संशोधन आणि विकास

Edited By

**Dr. Pavan Mandavkar
Dr. Veera Mandavkar**



**Edited Reference Book
Published by a Government
Recognized National Level Publisher
under Peer Review System as per UGC Guidelines**

ISBN 978-81-953708-7-0

Research and Development

(Edited Book as per UGC Norms by National Level Publisher)

संशोधन आणि विकास

Chief Editor

Dr. Pavan Mandavkar

Principal, Indira Mahavidyalaya, Kalamb

Associate Editor

Dr. Veera Mandavkar

Director, Dr. Bhau Mandavkar Research Centre (DBMRC)

Dr. Bhau Mandavkar Research Centre















Indira Mahavidyalaya, Kalamb, Dist. Yavatmal

Maharashtra 445 401 (India)

9422867658, 9403014885

researchjournalofindia@gmail.com

marathipradhyapak@gmail.com

-  ISBN 978-81-953708-7-0
-  Edited Reference Book (in multilanguage)
-  Research and Development संशोधन आणि विकास
-  © Principal Dr. Pavan Mandavkar
- © प्राचार्य डॉ. पवन मांडवकर
Indira Mahavidyalaya, Kalamb, Dist. Yavatmal,
Maharashtra 445 401 (India)
-  Edition I 8 March, 2023
(Mahashivratri, International Women's Day)
-  **Publication Number** 22 प्रकाशन क्र. २२
-  **Copies** 1000 प्रती १०००
-  **Size** Demi आकार डेमी
-  **Pages** 304 पृष्ठसंख्या ३०४
-  **Cover Page** 4 colour मुखपृष्ठ फोर कलर
-  **Type setting & cover page** Dr. Pavan Mandavkar
संगणक / मुखपृष्ठ रचना डॉ. पवन मांडवकर
-  **Publisher**
Dr. Veera Mandavkar
Director, Dr. Bhau Mandavkar Research Centre
Indira Mahavidyalaya, Kalamb, Dist. Yavatmal,
Maharashtra 445 401 (India)
9422867658, 9403014885
researchjournalofindia@gmail.com
marathipradhyapak@gmail.com
-  **Printer and Distributor**
Sewa Prakashan, Vijay Colony, Amravati
- (Note: All rights are reserved with the Publisher & Editorial Board.
The opinion expressed are of the authors & the association advisory
board, editorial board as well as the peer committee does not hold any
responsibility for any of the views expressed. Judiciary matter in
Kalamb Court only.)
-  Rs. 400/- मूल्य ४०० रुपये

10	Heat and Dust: Ruth Praver Jhabvala's 'Insider-outsider' View - Dr. Vijay D. Bhange	89-98
11	Biodiversity and Human Health: A Symbiotic Relationship - Rahul A. Sinha	99-115
12	Dalit women feminism & Rebel traversed in Jyoti Langewar' Poem, 'Mother' & 'Caves' - Prof. P. S. Jawade	116-120
13	Giants Through the Lens of Alienation in Rowling's Harry Potter series - Dr. S. S. Joshi	121-131
14	Fuzzy Logic in Temperature Control Systems: Adaptive and Intelligent Solutions - Dr. Vicky Watkar	132-141
15	National Education Policy 2020 and Research in Higher Education - Dr. Pavan Mandavkar	142-147
16	Heavy Metals, their Health Effects and its Precautions - Dr. Dasharath M. Chavhan	148-152
17	Schiff Base Ligands: Formation of a Thiadiazole Ring by Vanadium-Induced Cyclization of the Coordinated Ligand - Suraj A. Deshmukh	153-160
18	Recent Advancements in the Spintronics Application of Carbon Nanotube - Kailash Nemade	161-168
19	Applications of Statistics in Research - Dr. Ved Ramesh Patki	169-174
20	Comparative Analysis of Positional Variations in Physical Fitness and Body Mass Index (BMI) Among Handball Players of Yavatmal District - Shital S. Raut	175-181
21	A Comparative Study among Working and Non-Working Women with Respect to Life Satisfaction - Dr. Pandurang Ingle	182-191

Recent Advancements in the Spintronics Application of Carbon Nanotube

Kailash Nemade
Department of Physics
Indira Mahavidyalaya
Kalamb, Dist. Yavatmal 445401, India

Abstract

Carbon nanotubes have emerged as promising candidates for spintronics applications due to their unique electronic and magnetic properties. In recent years, significant advancements have been made in harnessing these properties for spin-based devices and technologies. This paper reviews the latest developments in utilizing carbon nanotubes for spintronics applications, focusing on key areas such as spin transport, spin manipulation, and spin injection. Overall, this review provides valuable insights into the recent progress and potential applications of carbon nanotubes in spintronics, paving the way for the development of next-generation spin-based devices with enhanced performance and functionality.

Keywords: Electronics; Spintronics; Carbon Nanotube

1. Introduction

Spintronics, a rapidly evolving field at the intersection of electronics and magnetism, has garnered considerable attention in recent years for its potential to revolutionize information processing and storage technologies. Unlike conventional electronics, which rely solely on the charge of electrons, spintronics exploits the intrinsic spin of electrons as an additional degree of freedom for carrying and manipulating

**Form IV
(See Rule 8)**

Statement about ownership and other particulars about the edited book
Research and Development

- | | | |
|-------------------------|---|--|
| 1. Place of Publication | - | Indira Mahavidyalaya, Kalamb |
| 2. Published on | - | 8th March, 2024 |
| 3. Printer's Name | - | Seva Prakashan, Vijay Colony,
Amravati 444606 (M.S.) |
| 4. Publisher's Name | - | Dr. Mrs. Veera Mandavkar |
| Nationality | - | Indian |
| Address | - | Indira Mahavidyalaya, Kalamb,
Dist. Yavatmal 445401 |
| 5. Chief Editor's Name | - | Dr. Pavan Mandavkar |
| Nationality | - | Indian |
| Address | - | Principal, Indira Mahavidyalaya,
Kalamb, Dist. Yavatmal |

We, Dr. Pavan Mandavkar & Dr. Mrs. Veera Mandavkar hereby declare that the particulars given above are true to the best of our knowledge and



Dr. Bhau Mandavkar Research Centre
Indira Mahavidyalaya, Kalamb
Dist. Yavatmal, Maharashtra, India
E mail: marathipradyapak@gmail.com
researchjournalofindia@gmail.com

₹ 400/-