

## Annexure – I

1. Publications :-85

S. No.	Name of Journals	Published from	No. of papers published	I. F	ISSN No.
(1)	J.Chem.Phy	America	<b>02</b>	1.224 UGC Approved	SJR
(2)	Mole.Phys	England	<b>01</b>	1.642 UGC Approved	SJR
(3)	Parmana	Bangalore, India	<b>01</b>	0.720 UGC Approved	SJR
(4)	Indian J. Phys (Springer group)	Kolkata, India	<b>08</b>	SJR UGC Approved	
(5)	Proceeding of ISTAM	IIT Kharagpur, India	<b>39</b>	IIT Kharagpur	
(6)	Proceeding of NCMA	Kurukshetra, India	<b>01</b>		
(7)	Proceeding of RAMS	Kurukshetra, India	<b>01</b>		
(8)	PAS	Jaunpur	<b>03</b>		0972-3498
(9)	CDMOP	TIFER	<b>01</b>		
(10)	Material Science Research India	Bhopal	<b>04</b>		0973-3469
(11)	International Journal of Chemical Science	Udaipur	<b>04</b>	1.24	0972-768X
(12)	Indian Journal of Pure and Applied Physics	CSIR, New Delhi	<b>01</b>	3.358 SJR UGC Approved	0019-5596
(13)	SICE	Japan	<b>03</b>	IEEE	

(14)	Journal of Physical Science	New Delhi, India	<b>02</b>	1.12	0975-5519
(15)	Indian Journal of Theoretical Physics	Kolkata, India	<b>05</b>	2.21 UGC approved	0019-5693
(16)	Indian Journal of Computer Science. and Engineering (IJCSE)		<b>01</b>	3.56	0976-5166 2231-3850
(17)	Springer		<b>02</b>		SJR
(18)	Journal of Atomic, Molecular, Condensate & Nano Physics		<b>01</b>	UGC approved	ISSN : 2349-2716 (Online); 2349-6088 (Print)
(19)	IJAERD		<b>01</b>	5.71	e-ISSN(O) -2348-4470 p-ISSN(P) :2248-6406
(20)	IJETST		<b>01</b>		6602-6607
(21)	J.Wjert		<b>01</b>		
(22)	ISAMP	New Delhi	<b>02</b>		

**(A) List of Publications :-**

**(a) In Journals (International and National with Impact Factor, UGC approved, SJR and ISSN No) -40**

**(1) Thermodynamic properties of hard ellipsoid square-well.**

A. K. Singh, **T. K. Dey** and S.K. Singh

Pramana- J.Phys.34, 123, **(1990)**, **Impact Factor - 0.720, UGC Approved**

**(2) Quantum corrections to equilibrium properties of molecular fluids.**

**T. K. Dey** and Suresh K. Sinha

Mole.Phys.73, 427, **(1991)**, **Impact Factor - 1.642**

**(3) Semi classical theory for thermodynamics of molecular fluids.**

**Tarun Kumar Dey** and Suresh K. Sinha

Indian J.Phys.72 A, 397, **(1998)**, **UGC Approved**

**(4) Theory of thermodynamics and transport properties of molecular fluids.**

B. P. Karki, B. K. Singh, **T. K. Dey** and S. K. Sinha

Indian J.Phys.73 B, 615, **(1999)**, **UGC Approved**

**(5) Semiclassical theory of D-dimensional fluids.**

Shanker S. Karki, **Tarun Kumar Dey**

Indian J.Phys.74 A (4), 363, **(2000)**, **UGC Approved**

**(6) A perturbation theory of classical simple fluids.**

**T. K. Dey**, B.P. Karki and S. K. Sinha

Indian J.Phys. 75A, 93-94, **(2001)**, **UGC Approved**

**(7) Theory for thermodynamic properties of molecular fluid mixtures.**

**Tarun. K. Dey** and Suresh K. Sinha

Indian J.Phys. 76 A (1), 75-78, **(2002)**, **UGC Approved**

**(8) Quantum corrections to equation of state of fluid mixtures of hard non spherical molecules.**

**Tarun Kumar Dey**, S. C Singh and S. K. Sinha

Indian J.Phys. 77B, 291-297, **(2003)**, **UGC Approved**

**(9) Simple equilibrium theory for equation of state of hard convex body fluids.**

**Tarun Kumar Dey** and Suresh K. Sinha

Indian J.Phys. 78(B), 751-755, **(2004)**, **UGC Approved**

**(10) Semiclassical statistical mechanics of two dimension hard body fluids.**

Shanker S. Karki, Bimal P. Karki, **Tarun Kumar Dey** and Suresh K. Sinha

J.Chem.Phys 122, 014517, **(2005)**, **Impact Factor** - 1.224

**(11) Equilibrium theory for equation of state of two dimensional hard body fluid and fluid mixture.**

**T. K. Dey**, H. D. Singh, S. S. Karki and S. K. Sinha

Indian J.Phys. 79(B), 959-965, **(2005)**, **UGC Approved**

**(12) Theory for transport properties of non spherical molecules of molecular fluids.**

**Tarun Kumar Dey**

Indian J.Pure&app.physvol 46 pp 403-405, **(2008)**, ISSN: 0019-5596

**Impact Factor: 3.358, UGC Approved and cited paper**

**(13) Shear Viscosity of Polar Lennard-Jones Fluids.**

AnjanaKumari, Prabhat K. Sinha, Mukesh K. Sinha and **Tarun Kumar Dey**

Int. J .Chem. Sci.: 7(4), , 2477-2483, **(2009)**, ISSN: 0972-768X, **Impact Factor** - 1.24

**(14) Estimation of Thermal Conductivity of Polar Fluids.**

Mukesh K. Sinha, AnjanaKumari, Prabhat K. Sinha, and **Tarun Kumar Dey**

Int. J .Chem. Sci. : 7(4), **(2009)**, 2484-2488, ISSN: 0972-768X, **Impact Factor** - 1.24

**(15) Theoretical Scheme for Thermal Conductivity of Non-Spherical Molecular Fluids.**

Satyendra P. Singh, Madan K. Choudhary, Mukesh K. Sinha and **Tarun. K. Dey**

Int. J. Chem .Sci. : 7(4), **(2009)**, 2513-2518, ISSN: 0972-768X, **Impact Factor** - 1.24

**(16) Computation for Surface Tension of Molecular Fluids.**

Madan K. Choudhary, Manoj Kumar and **Tarun Kumar Dey**

Int. J. Chem. Sci. : 7(4), **(2009)**, 2567-2571, ISSN: 0972-768X, **Impact Factor** - 1.24

**(17) Thermodynamics of tetrahedral molecular fluids.**

Manoj Kumar, Mukesh K. Sinha, Jyotish Kumar, AnjanaKumari, and **Tarun Kumar Dey**  
Mat. Sci. res. India, Vol. - 6(2), 573-576, **(2009)**, ISSN: 0973-3469

**(18) Thermophysical properties of molecular fluids using effective preaveraged pair potential Method.**

Prabhat K. Sinha, Mukesh K. Sinha, AnjanaKumari, Manoj Kumar, Jyotish K. and **Tarun Kumar Dey**

Mat. Sci. res. India, Vol. - 6(2), 573-576, **(2009)**, ISSN: 0973-3469

**(19) Computation of shear viscosity of tetrahedral molecular fluids.**

Prabhat K. Sinha, Mukesh K. Sinha, AnjanaKumari, Manoj Kumar, Jyotish K. and **Tarun Kumar Dey**

Mat. Sci. res. India, Vol. - 6(2), 573-576, **(2009)**, ISSN: 0973-3469

**(20) Shear viscosity of Gaussian overlap.**

RakeshRanjan, Madan Kumar Choudhary and **Tarun Kumar Dey**

Mat. Sci. res. India, Vol. - 6(2), 589-5592,**(2009)**, ISSN: 0973-3469

**(21) Transport Properties of fluid halogens using the 'preaveraged 'pair potential method.**

**Tarun Kumar Dey**, Randhir K. Sinha, Arbind Kumar and Satyandra P. Singh

J.PACS 2010, PAS (Physical Science) Vol. – 16, pp – 104-110, **(2010)**, ISSN: 0972-3498

**(22) Estimation for surface tension of molecular fluids.**

**Tarun Kumar Dey**, Mukesh Kumar Sinha and Amita Sharma

Jour. PAS, Vol. 16 (Physical Science), pp 97 - 103, **(2010)**, ISSN: 0972-3498

**(23) Theoretical study of Ferro fluid in wavy channel.**

**Tarun Kumar Dey**, Rajiv Kumar and AnjanaKumari

Jour. PAS, Vol. 17 (Physical Science), pp 203-211, **(2011)**, ISSN: 0972-3498

**(24) Transport properties of dense molecular fluids.**

**Tarun Kumar Dey**

Indian Journal of theoretical physics .vol.60 pp 249-256, **(2012)**, ISSN: 0019-5693

**(25) Numerical Analysis of Hetrojunction Semiconductor Devices.**

Niraj Kumar, Manisha Samarth, and **Tarun Kumar Dey**,

Journal of physics science, Vol. - 4 (2), Page- 97-106, **(2012)**, ISSN: 0975-5519,

**Impact Factor - 1.12**

**(26) Theoretical Study of Transport Properties of Liquid Semiconductor.**

Manisha Samarth, AnjanaKumari, Satyandra Prasad Singh, Surendra Roy and **Tarun Kumar Dey**,

Journal of physics science, Vol. - 4 (2), 18-107-116, **(2012)**, ISSN: 0975-5519

**(27) Estimation for transport properties of square well fluids.**

**Tarun Kumar Dey**,

Indian Journal of theoretical physics .vol.61 (3) pp 161-166, **(2013)**, ISSN: 0019-5693  
(UGC Approved)

**(28) Influence of magnetic field in transport properties of semiconductor.**

Prashant Kumar Dey ,Rajiv Kumar, Manisha Samarth , Niraj Kumar and**Tarun Kumar Dey**

Indian Journal of theoretical physics (IJTP), paper No -124, **(2014)**, ISSN: 0019-5693  
(UGC Approved)

**(29) Analytical Studies of Metal Insulator Semiconductor Schottky Barrier Diodes.**

Niraj Kumar, AnjanaKumari, Manisha Samarth, Rajiv Kumar, and **Tarun Kumar Dey**

**Mat. Sci. res. India, Vol. - 11 (2), 121-129, (2014)**, ISSN: 0973-3469

**(30) Cryptographically use of Caesar cipher Technique in Password Managing and Security System.**

PrasantkumarDey and **Tarun Kumar Dey**

Indian. J. of Computer Sci. and Engineering (IJCSE), Vol 6 No- 03, 113-117, June- July  
**(2015)**

E-ISSN: 0976-5166, PRINT ISSN: 2231-3850

**(31) Behaviour of Hot Electron in Semiconductor Devices**

NirajKumar ,BrahmaNandJha and **Tarun Kumar Dey**

Indian. J. of Engineering Science and computing, IJESCVol 6 No- 06, 113-117, June  
**(2016)**

<http://ijesc.org>.F : 3.5

**(32) Study of Transport Properties of Associating Molecularfluids**

**Tarun Kumar Dey**

J.Wjert –Vol. **02**,Issue 04 ,63-69( 2016)

**(33) Quantum correction for transport properties of simple fluids**

**Tarun Kumar Dey**

IJETST –Vol. **05**,Issue 04,6602-6607(April 2018)

**(34) Application of Monte Carlo method for devices simulation**

Rajesh Kumar ,AnjanaKumari and **Tarun Kumar Dey**

IJAERD -Vol.05, Issue 05(May 2018) (ScientificJournal of Impact Factor:5.71)

e-ISSN(O) -2348-4470 p-ISSN(P) :2248-6406

**(35) Study of hot-electron effect in thermistors**

Rajesh Kumar and **Tarun Kumar Dey**

IJTP, Vol.64, Nos. 1 and 2, 2016, ISSN : 0019-5693 (UGC Approved)

**(36) Theoretical study of non –additive hard convex body fluid mixtures**

**Tarun Kumar Dey**

Journal of Atomic, Molecular, Condensate & Nano Physics,

***Accepted in the process of publication***

**(37) Analytical study of diffusivity and shear viscosity of liquid semiconductor**

Lalit Kumar Mishra ,Gyanesh and **Tarun Kumar Dey**

IJTP, Kolkata

**(38) Numerical analysis of hetrostructure semiconductor devices**

MukeshKumar ,ArchanaKumari and **Tarun Kumar Dey**

IJTP, Kolkata

**(39) Study of hot phonon on hot electron system**

AnjanaKumari ,BidyanandMahto,Rajesh Kumar and**Tarun Kumar Dey**

**Springer**

**(40) Charge –carrier dynamics of liquid semiconductor interfaces**

BhismKarki ,Gyanesh , Soumya Thakur and**Tarun Kumar Dey**

**Springer**

***Communicated***

**(1) Study of Thin Films Formation Using Spray Pyrolysis Techniques**

BhishmaKarki,JeevanJyotiNakarmi and**Tarun Kumar Dey**

IJAP , CSIR ,New Delhi (UGC Approved)

**(b) Proceedings of International and National Conference [(Full lengthpaper] (Based on the recommendation of the reviewers) - 45**



- (1) **PADE Approximant method for equilibrium properties of quantum hard sphere fluid.**

Proceeding of 35<sup>th</sup> ISTAM congress 47, (1990)

- (2) **Equilibrium theory of hard non sphere-fluid in the semi classical limit.**

T. K. Dey

38<sup>th</sup> ISTAM Congress SM-05, 50, (1993)

- (3) **Perturbation Calculation of thermodynamics of Gaussian overlap fluids.**

Tarun Kumar Dey and Suresh K. Sinha

Proceeding of 42<sup>nd</sup> ISTAM Congress 105, (1997)

- (4) **Theory of thermodynamic behaviour of molecular fluids.**

Tarun Kumar Dey

Proceeding of 43<sup>rd</sup> ISTAM 7, (1998)

- (5) **Quantum correction to thermodynamic function of Hard D-Sphere fluids.**

Tarun Kumar Dey

Proceeding of 44<sup>th</sup> ISTAM (International conference) 44, (1999)

- (6) **Perturbation theory for Hard-Core molecular fluid mixture with square well potential.**

Tarun Kumar Dey

Proceeding of 45<sup>th</sup> ISTAM Congress (International conference), 156, (2000)

- (7) **Virial equation of state for semi classical molecular fluids.**

Tarun Kumar Dey and Suresh K. Sinha

Proceeding of 47<sup>th</sup> ISTAM congress (International conference), 90, (2002).

- (8) An accurate equation of state for hard body fluid mixture.**  
Jyotish Kumar, **Tarun Kumar Dey** and Suresh K. Sinha  
Presented at 49<sup>th</sup> ISTAM Congress (International conference), 109, **(2004)**
- (9) Thermodynamics of molecular fluid mixture.**  
**Tarun Kumar Dey** and Suresh K. Sinha  
Presented at National Conference on materials and their applications, 249-252,  
**(2004)**  
Kurukshetra, Harayana March 11 - 13, 2004
- (10) Theory for transport properties of molecular fluids.**  
**T. K. Dey**, Balram Rai and Suresh K. Sinha  
Proceeding of 50<sup>th</sup> ISTAM Congress (International conference), P-12, **(2005)**
- (11) Theory for transport properties of quantum fluids at high temperature.**  
**Tarun Kumar Dey**  
E-Proceeding of 2<sup>nd</sup> International Conference CDAMOP P-12, **(2006)**
- (12) Estimation of thermophysical properties of some molecular fluids.**  
**Tarun Kumar Dey**  
Presented at 51<sup>st</sup> ISTAM Congress (International conference), **(2006)**
- (13) Quantum corrections to equilibrium properties of diatomic molecular fluids.**  
**Tarun Kumar Dey** and Randhir Kumar Sinha  
Proceeding of 51<sup>th</sup> ISTAM Congress (International conference), **(2006)**
- (14) Prediction of thermo physical properties for Lennard-Jones fluid using the effective- diameter hard sphere theory.**

Presented at International Conference on 52<sup>nd</sup> ISTAM, 14-17 Dec- (2007)

**(15) Estimation of transport properties of fluid halogens using the preaveraged pair potential method.**

Presented at International Conference on 52<sup>nd</sup> ISTAM, 14-17 Dec- (2007)

**(16) Theoretical Scheme for Transport Properties of non-Spherical Molecular Fluids.**

Jyotish Kumar, **Tarun Kumar Dey**, S. K.Gokul and S. K. Sinha

Proceeding of 52<sup>nd</sup> ISTAM Congress (International Conference) 210-215, (2007)

**(17) Theory for transport properties of Gaussian Overlap molecular fluids.**

**Tarun Kumar Dey** and Rajkishor Prasad

Proceeding of SICE (International conference) August 20-22, p 3408-3411, (2008)

The University Electro – Communication, Japan

**(18) Estimation of Shape parameter of GGD function: An information Theoretic Approach.**

Rajkishor Prasad, Balram Rai, Fumitoshi Matsuno and **Tarun Kumar Dey**

Proceeding of SICE (International conference) August 20-22, p 3420-3423, (2008)

The University Electro – Communication, Japan

**(19) Theory for virial equation of state of two- dimensional hard body fluid mixtures.**

**Tarun Kumar Dey** and Jyotish Kumar

Proceeding of SICE (International conference) August 20-22, p 3408-3411, (2008)

The University Electro – Communication, Japan

**(20) Transport Properties of Quantum Fluids at High Temperature.**

**Tarun Kumar Dey**, Jyotish Kumar and Prabhat Kumar

Proceeding of 52<sup>nd</sup> ISTAM Congress (International Conference) 210-215, (2008)

- (21) Computation of thermophysical properties of fluid halogens.**  
**Tarun Kumar Dey**  
E-Proceeding of 53<sup>rd</sup> ISTAM congress (International conference), 27-30 Dec- **(2008)**
- (22) Equation of state of dense hard core non additive fluid mixture.**  
**Tarun Kumar Dey**, Jyotish Kumar and Anjana Kumari  
Proceeding of 53<sup>rd</sup> ISTAM Congress (International Conference) p 210-215, **(2008)**
- (23) Theoretical study for thermodynamics of simple fluids.**  
**Tarun Kumar Dey**, Anjana Kumari and Mukesh K. Sinha  
Proceeding of 53<sup>rd</sup> ISTAM Congress (International Conference) p 210-215, **(2008)**
- (24) Theoretical scheme for dense hard- body fluid mixtures.**  
**Tarun Kumar Dey**, Mukesh K. Sinha, Prabhat Kumar Sinha and Madan K. Choudhary  
Proceeding of 54<sup>th</sup> ISTAM Congress (International Conference) p 176-180, **(2009)**
- (25) Thermophysical properties of molecular fluid halogens.**  
Anjana Kumari, Jyotish Kumar, Kundan K. Singh, Sudhir K. Gokhul and **Tarun Kumar Dey**  
Proceeding of 54<sup>th</sup> ISTAM Congress (International Conference) p 181-185, **(2009)**
- (26) Thermophysics of v-dimensional fluid mixture.**  
**Tarun Kumar Dey**, Anjana Kumari and Mukesh K. Sinha  
Proceeding of 55<sup>th</sup> ISTAM Congress (International Conference) p 13-18, **(2010)**
- (27) Thermophysical Properties of Lennard – Jones fluids.**  
**Tarun Kumar Dey** and Jyotish Kumar  
Proceeding of 55<sup>th</sup> ISTAM Congress (International Conference) p 79-82, **(2010)**

- (28) Transport properties for binary Lennard-Jones fluid mixtures.**  
**Tarun Kumar Dey**, AnjanaKumari and Mukesh Kumar Sinha  
Proceeding of 56th ISTAM Congress (International conference) p 201-206, **(2011)**
- (29) Theoretical study of hard convex body fluid mixtures.**  
**Tarun Kumar Dey**  
Proceeding of 57th ISTAM Congress (International conference) FM 12-03, p78,  
**(2012)**
- (30) Theoretical study of surface tension of a Lennard –Jones Fluids.**  
**Tarun Kumar Dey**, Satyendra Prasad Singh  
Proceeding of 58th ISTAM Congress (International conference) FM 12s 73, **(2013)**
- (31) Acoustical study of nanoferro fluids.**  
AnjanaKumari, Rajiv Kumar and **Tarun Kumar Dey**  
Proceeding of 58th ISTAM Congress (International conference) FM 6S763, p78,  
**(2013)**
- (32) A Two Dimensional Analysis of Semiconductor Devices.**  
Manisha Samarth, Kundan Kumar, Mukesh Kumar Sinha and **Tarun Kumar Dey**  
Proceeding of 58th ISTAM Congress (International conference), BESU, (WB)  
FM – P – 1- 6 (E- Proceeding), **(2013)**
- (33) Theoretical Scheme for non spherical fluid mixture.**  
**Tarun Kumar Dey**  
P-94, CMDAYS, **(2013)**
- (34) Simulation Studies of Current–Voltage Characteristics of Metal Insulator Semiconductor Diodes.**  
59<sup>th</sup> ISTAM at Alliance College of Engineering and Design, Alliance University,  
Bangalore, **17 – 20 Dec, (2014)**

- (35) Liquid semiconductor diode as energy harvesting source**  
Gyanesh and Tarun Kumar Dey  
60<sup>th</sup> ISTAM at NIT, Jaipur 16-19 Dec(2015)
- (36) Study of Statistical Associating fluid theory model and its Application**  
Tarun Kumar Dey , Ragni and Anjana Kumari  
Proce. of 60<sup>th</sup> congress of ISTAM (<http://istam.iitkgp.ac.in>)  
MNIT, Jaipur, Rajasthan, India Dec 16-19(2015) (mnit.ac.in)
- (37) Efficient method of charging mobile phones utilizing radio frequency energy**  
Archana Kumari, Niraj Kumar , Prashant Kumar Dey , Brahamand Jha and Tarun Kumar Dey  
Proce. of 60<sup>th</sup> congress of ISTAM (<http://istam.iitkgp.ac.in>)  
MNIT, Jaipur, Rajasthan, India Dec 16-19(2015) (mnit.ac.in)
- (38) Application of ferrite medium in microwave devices**  
Gun Sagar Yadav , Prashant Kumar Dey , Ganpati , Archana Kumari and Tarun Kumar Dey  
Proce. of 60<sup>th</sup> congress of ISTAM (<http://istam.iitkgp.ac.in>)  
MNIT, Jaipur, Rajasthan, India Dec 16-19(2015) (mnit.ac.in)
- (39) Non ideal effects in doped semiconductor thermistors**  
Gyanesh and Tarun Kumar Dey  
ISTAM 61<sup>st</sup> VIT , Vellore 16-19 Dec(2016)
- (40) Theoretical Study of Transport Properties of liquids using Molecular Dynamics Simulation**  
Proce. of 62nd congress of ISTAM (<http://istam.iitkgp.ac.in>)  
Osmania University Hyderabad, India Dec 15-18(2017)

**(41) Analytical study of virial equation of state of Lennard –Jones and water clusters in a low density limit**

**Tarun Kumar Dey**

Proce. of 63rd congress of ISTAM (<http://istam.iitkgp.ac.in>)

DayanandSagar University Bangalore,India Dec 20-23(2018)

**(42) Study of radio frequency transistor amplifier using simulation method**

BrahamaNandJha,ArchanaKumari and**Tarun Kumar Dey**

Proce. of 63d congress of ISTAM (<http://istam.iitkgp.ac.in>)

DyanandSagar University,Bangalore,India Dec 20-23(2018)

**(43) Influence of magnetic field in a transport properties of a semiconductor**

Gun SagarYadav ,Randhir Kumar and**Tarun Kumar Dey**

Proce. of 63d congress of ISTAM (<http://istam.iitkgp.ac.in>)

DyanandSagar University,Bangalore,India Dec 20-23(2018)

**(44) Theoretical analysis of confinement on quantum dots using the Brus equation**

MukeshKumar ,Lalit Kumar ,ArchanaKumari and**TarunkumarDey**

Proce. of 63d congress of ISTAM (<http://istam.iitkgp.ac.in>)

**DyanandSagar University,Bangalore,India Dec 20-23(2018)**

**(45) Study of heat generation on hot electron transport using simulation method**

ManishaSamarth ,Mukesh Kumar and **Tarun Kumar Dey**

Proce. of 63d congress of ISTAM (<http://istam.iitkgp.ac.in>)

**DyanandSagar University,Bangalore,India Dec 20-23(2018)**

## Annexure - II

### 2. Books published

**(i) Book :-**

**Molecular Physics : Kinetic theory and Thermodynamics**

***T. K. Dey and S.K.Sinha***

In **Europe** - Alpha Science International Ltd

7200 The Quantum, Oxford Business Park North Garsington Road, Oxford  
OX4 2JZ, U.K.

In India – 2006, Narosa Publishing House Pvt Ltd, New Delhi – 110002

ISBN-13:978-81-7319-765-9

ISBN-10:81-7319-765-2

**(ii) Book :-**

**B.Sc. Physics Practical**

***Dr. T. K. Dey,***

Rounak Publication, Lane No. - 1, Sinha House, Khazanchi Road, Patna-  
800004

ISBN: - 778-81-908736-2-8, 2011



## Annexure - III

### Research Projects Carried out :-

S. No.	Title of the project	Name of the Funding Agency	Duration	Remarks
<b>Minor Research project:-</b>				
(1).	<b>“Equilibrium and transport properties of molecular fluids.”</b>	( Letter no –PSB – 01/04.05S.NO –49836 ),  Dated 03 <sup>rd</sup> March 2005 , UGC ,  Eastern regional office Kolkata-700098,  Amount: 95000/-	Two years  2005-07	Six papers are published and five is presented in International and National conference.  (Work is finished)  Report submitted to UGC
(2).	<b>“Application of Molecular nano technology for thermophysical properties of molecular fluids.”</b>	( Letter no –S.NO – 49836 ), Dated 5th Dec 2008, UGC, Eastern regional office Kolkata,  Amount: 71000/-	Two years  2009-11	Eight papers published and presented in International and National conference  (work is finished)  Report submitted to UGC

## Annexure - IV

### No. of research scholars - awarded Ph.D. degrees

(i) **Awarded** : 05

S. No.	Name of student guided Successfully	Title of work/Thesis	University where the work was carried out/ Remark
(1).	<b>AnjanaKumari</b> Department of Physics N. D. College, Rambag Purnea- 854301 (Bihar).	<i>"A Theoretical Study of Simple and Complex Fluids."</i>	B. N. M. University, Madhepura <b>(Awarded) - 2003</b>
(2).	<b>Alpana Sinha</b> Department of Physics B. R. A. Bihar University Muzffarpur- 842001	<i>"Theoretical Study of Equilibrium Properties of Liquids."</i>	B. R. A. Bihar University, Muzaffarpur- 842001 <b>(Awarded) - 2006</b>
(3).	<b>Manisha Samarth</b> Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<i>"Thermophysical Properties in Semiconductor."</i>	University Dept. of Electronics, B. R. A. Bihar University, Muzaffarpur- 842001 <b>(Awarded) - 2014</b>
(4).	<b>Niraj Kumar</b> Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<i>"Analytical Study and Simulation of Semiconductor Devices."</i>	University Dept. of Electronics, B. R. A. Bihar University, Muzaffarpur- 842001 <b>(Awarded) - 2015</b>
(5).	<b>Rajiv Kumar</b> Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<i>"Role of Ferrites in Electronic Equipments."</i>	University Dept. of Electronics, B. R. A. Bihar University, Muzaffarpur- 842001 <b>(Awarded) – 2016</b>

(ii) **Research Going on : 05**

(1).	<b>Rajesh Kumar</b> Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<b><i>“Study of Hot Electrons in Semiconductor.”</i></b>	University Dept. of Electronics, B. R. A. Bihar University, Muzaffarpur- 842001 <b>(Submission of Draft thesis )</b>
(2)	Gyanesh (NET, Qualified) Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<b><i>“Transport properties of liquid semiconductors”</i></b>	<b>Course work</b> has been done, <b>Conference</b> attended and presenting the work - 04 <b>Publication</b> -01
(3)	Lalit Kumar Mishra (NET Qualified) Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<b><i>“Analytical study of thermophysical properties of liquid semiconductor”</i></b>	<b>Course work</b> has been done, <b>Conference</b> attended and presenting the work - 04 <b>Publication</b> -01
(4)	ArchanaKumari Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<b><i>“Study of Power Electronics Systems in Radio Frequency range”</i></b>	<b>Course work</b> has been done, <b>Conference</b> attended and presenting the work - 03 <b>Publication</b> -01
(5)	Mukesh Kumar Department of Electronics B. R. A. Bihar University Muzffarpur- 842001	<b><i>“Simulation studies of different characteristics of metal insulator semiconductor devices”</i></b>	<b>Course work</b> has been done, <b>Conference</b> attended and presenting the work - 04 <b>Publication</b> -01

## Annexure - V

### 3. Details of Conference / Seminars / symposium attended / organised : 53

#### (i) An International Meet :-

S. No.	Name of the seminar/ Conference/Symposia Workshop, etc.	Name of the Sponsoring Agency	Place and date
(1)	ISTAM (Indian Society of Theoretical & Applied Mechanics) I.I.T. Kharagpur -721302	South Gujarat University	Surat, Gujarat Dec. 28 - 31, 1997
(2)	ISTAM Congress	PSG College of Technology	Coimbatore, Tamilnadu Dec. 16 - 19, 1998
(3)	ISTAM Congress	R. E. College, Warangal	Warangal, AndhraPradesh Dec. 22 - 25, 1999
(4)	ISTAM Congress	MepcoShlenk Engineering College	Sivkasi, Tamilnadu Dec 26-29,2000
(5)	ISTAM Congress	R. E College Hamirpur	Hamirpur, Himachal Pradesh Dec. 19 – 22, 2001
(6)	ISTAM	I.I.T.Guwahati	Guwahati, Assam Dec. 23 – 26,2002
(7)	ISTAM	B.I.T Mesara	Ranchi, Jharkhand Dec. 18 – 21, 2003
(8)	ISTAM	N.I.T Rourkela	Rourkela Orissa Dec. 27 – 30, 2004
(9)	ISTAM	I.I.T Kharagpur	Kharagpur, West

			Bengal Dec. 14 – 17, 2005
(10)	CDAMOP( Current Development of Atomic and Molecular Physics )	Delhi University	Delhi March 21 – 23 , 2006
(11)	ISTAM	College of Engineering Vishakhapatnam -530003	Vishakhapatnam , Andhra Pradesh Dec. 18 - 21, 2006
(12)	ISTAM	BNM Institute of Technology , Bangalore	Bangalore, Karnataka Dec. 14 - 17, 2007
(13)	ISTAM	University College of Engineering Osmania University,	Hyderabad, A.P Dec. 27 - 30, 2008
(14)	ISTAM	NSIT,Delhi	Delhi Dec. 18-21, 2009
(15)	ISTAM	NIT,Hamirpur	Hamirpur , H.P Dec. 18 - 21, 2010
(16)	ISTAM	SBP NIT, Surat, Ahmedabad, Gujrat	Ahmedabad, Gujrat Dec. 19 - 21, 2011
(17)	ISTAM	Invited speaker DIAT, Girinagar, Pune, Maharashtra	Pune, Maharashtra Dec. 17 - 20, 2012
(18)	ISTAM	BESU , kolkata , West Bangal	Kolkata , West Bangal Dec. 18 - 21, 2013
(19)	ISTAM	Alliance University Bangalore, Karnataka	Bangalore, Karnataka Dec. 17 - 20, 2014
(20)	ISTAM	MNIT,Jaipur Rajsthan	Dec. 16-19,2015

(21)	ISTAM	VVIT,Vellore Tamil Nadu	Dec. 16-19, 2016
(22)	ISTAM	Osmania University, Hyderabad	Dec 15-18,2017
(23)	ISTAM	DayanandSagar University, Bangalore	Dec 20-23, 2018
(24)	ISC 105	Manipur University ,Imphal	March 2018
(25)	OPSR -2018	Raja Ramanna Centre for Advanced Technology, Indore(MP), LovelyUniversity,Jalandhar,Punjab	(April 29-2nd May 2018)

**(ii) A National Conference :-**

<b>S. No.</b>	<b>Name of the seminar / Conference / Symposia Workshop, etc.</b>	<b>Name of the Sponsoring Agency</b>	<b>Place and Date</b>
(26)	CMDAYS ( Condensed Matter DAYS)	ViswaBharati University	Shantiniketan, West Bengal August 29 – 31, 1997
(27)	CMDAYS	T. M. Bhagalpur University	Bhagalpur, Bihar August 27 - 29, 1998
(28)	CMDAYS	Jadavpur University	Jadavpur, West Bengal August 26 – 28, 1999

(29)	CMDAYS	Guru Ghasidas University	Bilaspur, Chhatisgarth August 29 - 31, 2000
(30)	CMDAYS	Sambalpur University	Sambalpur, Orissa August 29 - 31, 2001
(31)	CMDAYS	T. M. Bhagalpur University	Bhagalpur, Bihar August 29 - 31, 2002
(32)	CMDAYS	Jadavpur University	Jadavpur, West Bengal August 27 – 29, 2003
(33)	CMDAYS	North- Eastern Hill University	Shillong, Meghalaya August 25 - 27, 2004
(34)	ISAMP (Indian Society of Atomic and Molecular Physics )	B. R. A. Bihar University	Muzaffarpur, Bihar Dec. 03 - 05, 2003
(35)	NCMA (National conference on Material Science and Application)	Kurukshetra University	Kurukshetra, Harayana March 11 - 13, 2004
(36)	RAMS ( Recent Advances in Material Science )	Kurukshetra University	Kurukshetra, Harayana Sept. 27 – 29, 2006
(37)	ISAMP ,TIFR	Tata Institute of Fundamental Research, Mumbai-400005	Mumbai, Maharashtra Jan. 07 - 10, 2007
(38)	CMMP-07( National Conference on	University of Rajasthan	Jaipur, Rajasthan

	Condensed Matter Physics )		Feb. 01 - 03 , 2007
(39)	RAMS -07	T. M. Bhagalpur University ,	Bhagalpur, Bihar March 26 - 27, 2007
(40)	CMDAYS –07	NIT Rourkela, Orissa	Rourkela , Orissa August 29 - 31 , 2007
(41)	Feed back Work shop of Eastern and North East India	IGNOU Regional Centre Kolkata -700091	Kolkata, WB Feb. 28 - 29, 2008
(42)	CMDAYS -08	Visva Bharti University	Shantiniketan, WB August 29 - 3 , 2008
(43)	CMDAYS -09	Jadavpur University, Kolkata	Jadavpur, W.B August 26 - 28, 2009
(44)	CMDAYS-10	University of Kalyani	W.B August 25 - 27, 2010
(45)	PACS -10	TDS, Jaunpur	Jaunpur, U.P Feb. 21- 23, 2010
(46)	CMDAYS-11	Guwahati University, Guwahati	Assam August 25 - 27, 2011
(47)	PACS-11	TDS Jaunpur	Jaunpur, U.P March 19 - 20, 2011
(48)	4 <sup>th</sup> Bihar Science congress Bihar Brains	L. S. College, Muz	Feb 11-13, 2011
(49)	CMDAYS-12	BIT Mesra, Ranchi	Mesra, Ranchi, Jharkhand August 25 - 27, 2012
(50)	CMDAYS-13	NIT , Rourkela, Orissa	Rourkela, Orissa August 25 - 27 ,2013



(51)	ET CMP <b>(Invited speaker)</b>	T. M. Bhagalpur University	Bhagalpur,Bihar 17 - 18 Jan, 2014
(52)	<b>CMDAYS</b>	ViswabhartiShantiniketan,Bolpur (WB)	August 25 - 27 ,2016
(53)	<b>CMDAYS</b>	Bardawan University ,Bardwan	August 25 - 27 ,2018

**(iii) HonoursConferred :-**

Member in Executive council (2006 – 09), 2012 -2015,2018-2020, India Society of Theoretical and Applied Mechanics, IIT (Kharagpur).

**(iv) Invited Lectures :-**

**(1). Transport Properties of Fluids**

***Dr. Tarun Kumar Dey***

IL -09 (An International Meet) ISTAM 57<sup>th</sup> of congress,At –DRDO Pune, 20<sup>th</sup>  
Dec, 2012, 9.45 - 10.15.

**(2). Thermophysical Properties of Fluids**

***Dr. Tarun Kumar Dey***

IT -04 (National conference)

At –TM Bhagalpur University, Bhagalpur 18th Jan, 9.45 -10.15

**(v) Associations :-**

<b>(1).</b>	Life member (L / 390) ISTAM	Indian Society of Theoretical and Applied Mechanics
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		IIT, Kharagpur- 721302
<b>(2).</b>	Life member (L / 0664) IPS,	Indian Physical Society, Kolkata – 700032
<b>(3).</b>	Life member ISAMP L/1314	Indian Society of Atomic and Molecular Physics, Mumbai
<b>(4).</b>	Life member (L / 183) PAS	Purvanchal Academy of Science, Jaunpur
<b>(5).</b>	Life member ITP (L/93)	Institute of Theoretical Physics, Mohan Bagan lane Kolkata.

<b>(v)</b>	<b><i>Chair person in International conference</i></b>	<ul style="list-style-type: none"> <li>(a) ISTAM, BIT Mesra – 2003</li> <li>(b) ISTAM, NSIT Delhi - 2009</li> <li>(c) ISTAM, SBNIT Surat - 2011</li> <li>(d) ISTAM, Alliance University Banglore – 2014</li> <li>(e) ISTAM ,NIT ,Jaipur ,2015</li> <li>(f) ISTAM , DSU,Banglore,2018</li> </ul>
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## Annexure – VI

### 4. Teaching Experience : 30 Years

Name of post	Organization	Pay Scale	Period		Total Duration	Remarks if any
			From	To		
Lecturer	Government Mahila Inter College, Purnea	6500-10500	7 <sup>th</sup> March 1989	27 <sup>th</sup> June 2003	14 Yrs.	Relieved on 27th June 2003
Lecturer	Purnea Mahila Mahavidyalay BNMU, Madhepura	6500-10500	9 <sup>th</sup> Sept 1998	27 <sup>th</sup> June 2003	05 Yrs.	(on deputation)
Associate Professor	L. S. College, B. R. A. Bihar University, Muzaffarpur-842001	37400-67000	28 <sup>th</sup> 2003	Till now	15 Yrs.	
Associate Professor	Univ.Department of Physics B.R.A Bihar University Muzaffarpur-842001	37400-67000	13th Dec. 2014	30 Aug. 2015	08 Months	(on deputation) for NAAC Presentation

#### Annexure – VII

#### 5. Academic Qualification :

Name of the Degree	Name of the University or other examining body	Percentage of marks / OCGA obtained	Division obtained	Year of passing	Subject(s) (Major)
<b>Matric</b>	B.S.E.B, Patna	68.2%	1 <sup>st</sup> Division	1978	Physics, Chem, Hindi, Adv Math, English
<b>Intermediate Science</b>	B. R. A. B. University, Muzaffarpur	62.4%	1 <sup>st</sup> Division	1980	Phy, Chem, Hindi, English
<b>Bachelor's Degree(s)</b>	B. R. A. B. University, Muzaffarpur	77.66%	1 <sup>st</sup> Class University Rank 02(Two) Distinction in math and aggregate also	1982	Physics (Hon)
<b>Master's Degree(s)</b>	B. R. A. B. University, Muzaffarpur	77.62%	1 <sup>st</sup> Class University Rank 02(Two)	1984	Physics (Special Paper- Electronics)
<b>Research Degree Ph.D.</b>	B. R. A. B. University, Muzaffarpur			1994	A Theoretical Study of Molecular Liquids

#### Annexure – VIII

#### 6. Details of Research :

The subject material presented in any thesis as given below :

1. Chapter I presents review of classical molecular liquids based on the assumption that total interaction potential of the system pair-wise additive.

Chapter II, we develop a theory for calculating the thermo dynamic properties in semiclassical limit. The properties are calculate using the Wigner - Kirck wood (WK) method. Further we apply the theory to evaluate the influence of quantum effects on the thermodynamic properties of HCl. Where quantum effects are small.

Chapter III, we develop another method for calculating the thermodynamic properties of molecular fluids in terms of effective pre averaged potential. This pre averaged pair potential is expressed in the LJ (12-6) potential form which includes quantum effects. We use this LJ (12-6) potential form to calculate the thermodynamic properties of Halogen. at zero pressure. The agreement with the experimental results is fairly good.

Chapter IV, is concerned with the evaluation of equilibrium properties of hard non-sphere fluids in the semi classical limit. The usual way of studying the properties of the hard sphere fluids using the Hemmer Jancovici (HJ) method. This approach has been extended to hard non-sphere fluids for calculating the first order quantum correction to the free emerges, pressure and chemical potential. In the second part we develop Padi approximant for the density independent radial distribution function and second virial co efficient for hard sphere fluid. It provides good results.

Chapter V, is devoted to evaluate the thermodynamics properties of hard convex molecular fluid. We adopt the second order perturbation theory with hard non spherical reference system. We consider the molecular fluid with angle-dependent square well type potential. The effects of anisotropy on thermodynamic properties are discussed and found this effects increate with increase of density and decrease of temperature.

Last chapter deals with theory for site-site correlation function of molecular fluids is developed by expressing the relevant theories in terms of the graphical language interaction site formalism.

2. During my research period papers was published which was Published in SJR Journal and UGC Approved Journal.