## Wissenschaftsgeschichte

## Rajinder Singh

## D.M. Bose

**His Scientific Work in International Context** 

Shaker Verlag Aachen 2016 Bibliographic information published by the Deutsche Nationalbibliothek The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at http://dnb.d-nb.de.

Copyright Shaker Verlag 2016
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publishers.

Printed in Germany.

ISBN 978-3-8440-4619-9 ISSN 2198-8552

Shaker Verlag GmbH • P.O. BOX 101818 • D-52018 Aachen Phone: 0049/2407/9596-0 • Telefax: 0049/2407/9596-9 Internet: www.shaker.de • e-mail: info@shaker.de

## Content

Preface	iii
Foreword	v
Introduction	1
D.M. Bose (1885-1975) – Some Biographical Facts	5
Improved Wilson Cloud Chamber - Making the H-, γ-Particles and Ejected Electro Visible	
D.M. Bose in Berlin	9
E. Rutherford and Manchester School – Determining the Structure of Atom	12
D.M. Bose Improved Wilson Cloud Chamber  Study of the H-Particles  Observing Effect in Methane Gas  Disintegration of a Nucleus  Study of β-Particles  Ionisation Tracks of γ-Radiation in Hydrogen  Glass- and Mica-Plates and α-Radiation	18 19 20 21
Cloud Chamber Research in Calcutta	22
D.M. Bose, A.H. Compton, C.T.R. Wilson – Making the Ejected Electrons Visible	27
Bose Theory of Paramagnetism, Discovery of a New Photomagnetic Effect (Bose Effect) and Albert Einstein's Influence	
Chemists, Physicists and Electrons	37
Magnetism and the Concept of Weiss- and Bohr Magneton	38
D.M. Bose's Contribution Improvement in Bose's Theory	<b>41</b> 51
Comparison of Bose's, Hund's, Sommerfeld-Laporte's and van Vleck' Theories	52
Discovery of a New Photomagnetic Effect or Bose Effect	54
D.M. Bose, A. Einstein and Origin of "Spin only" Theory	57
Cosmic Rays Research at the Bose Institute and the Discovery of the Disintegrati Double Stars	
Cosmic Particles – Mesotron and Meson American Scientists and Mesotron H.J. Bhabha and Meson	77
Cosmic Rays Research at the Bose Institute and the Discovery of "Disintegration Dou Stars"	
Study of Cascade and Bursts Processes	89
D.M. Bose and Biological Science Research	111
D.M. Bose and Explanation of Life Processes by Physical and Chemical Principles	115

	D.M. Bose and the Physico-Chemical Hypothesis	_ 115
	D.M. Bose's Anatomico-Physiological Hypothesis	126
D.	M. Bose as Nobel Prize Nominator and Invitation to Como Conference	161
	A. Einstein - Confusing the Names D.[M.] Bose with S.[N.] Bose/Basu – Some Possible Causes	_163
	D.M. Bose's Influential Mentor J.C. Bose and Contacts in Germany	165
	Basu or Bose – Naming Style	168
	"Boses" and German Physicists	170
	S.N. Bose and Einstein's Light Quantum in the 1920s	171
	1920s - National Status of D.M. Bose and S.N. Bose	174
	Presence in the International Community	176
	The Working Places - Dacca vs. Calcutta	_177
	Objectives of the Como Conference Search for Suitable Topics and Speakers	
	Chances of Getting Nobel Prize by D.M. Bose	_181
	D.M. Bose as Nobel Prize Nominator	_185
	Opinions of the Expert and the Nobel Committee	188
D.	M. Bose - List of Publications	199
	Scientific Papers	199
	D.M. Bose - Articles of or on Matters of National Importance	205
	Biographical Notes by D.M. Bose	207
	Obituary Notes by D.M. Bose	207
	Book Reviews by D.M. Bose	208
	D.M. Bose - Other Articles on Various Subjects	210
	Books by D.M. Bose	214
Ві	bliography	215
In	dex	253