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978-0-521-12650-2 - The Triplet State

Edited by A. B. Zahlan, G. M. Androes, C. A. Hutchison, H. F. Hamerka, G. W. Robinson,
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THE TRIPLET STATE

PROCEEDINGS OF AN INTERNATIONAL
SYMPOSIUM HELD AT THE AMERICAN
UNIVERSITY OF BEIRUT, LEBANON

14–19 February 1967

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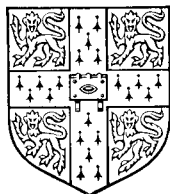
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Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore,
São Paulo, Delhi, Dubai, Tokyo

Cambridge University Press

The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org

Information on this title: www.cambridge.org/9780521126502

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First published 1967

This digitally printed version 2009

A catalogue record for this publication is available from the British Library

ISBN 978-0-521-06892-5 Hardback

ISBN 978-0-521-12650-2 Paperback

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PREFACE

Long-lived phosphorescence had been known for almost a century before G. N. Lewis and M. Kasha showed in 1944 that it was associated with an energy state which was paramagnetic. The paramagnetism of this state was investigated in a much more detailed way by C. A. Hutchison Jr. and B. W. Mangum in 1958 using the techniques of electron paramagnetic resonance. Also in 1958 R. Williams discovered delayed fluorescence. A number of scientists discovered that this strange fluorescence may be attributed to triplet-triplet annihilation, thus initiating still another new line of triplet state research the full exploration of which is still under way.

Thus, research into all aspects of the triplet state has been actively pursued for more than two decades. Even so, few of the basic questions posed concerning it have received definite answers. That there is still much to be done is indicated by many gaps in our knowledge. For example, accurate determinations of such basic quantities as singlet-triplet and triplet-triplet extinction coefficients have yet to be made. On the theoretical side an adequate analysis of such molecular properties as the intersystem crossing rate constant is still lacking.

The wide variety of techniques being applied to the study of the triplet state and the present rapid increase in the type of problems associated with it suggested that it might be useful to review our understanding of the triplet state and to perhaps chart a course for future investigation. To this end the Symposium on the Triplet State was held at the American University of Beirut in the Republic of Lebanon from 14 to 19 February 1967.

This volume contains most of the papers presented at the Symposium. Those papers received after the publisher's deadline (which was quite early in an attempt to make this volume generally available as soon after the Symposium as possible) are represented by abstract only.

This Symposium was one of the events held in celebration of the Centennial of the American University of Beirut, founded in 1866 as the Syrian Protestant College.

The Organising Committee wishes to acknowledge the financial help of the American University of Beirut and of the Research Corpo-

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ration (U.S.A.). The co-operation of the Symposium participants, officials and faculty members of the University and of the Cambridge University Press contributed greatly to the success of this meeting and to this volume which records it.

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† *Italic* indicates the author who delivered the paper, and to whom discussion was directed.

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