

Preface

Only a brief indication of the contents of this Volume 2 on advances in dielectric and related studies is necessary.

Professor Brot has been prominent in the development of the appraisal of molecular behaviour in liquids in terms of the correlation function representation. In his chapter he has summarized a number of the principal aspects of such studies in a way which naturally extends the general account given by Dr. Wyllie in Volume 1. It is certain that the insight and discrimination which these representations can contribute in liquid studies are by no means exhausted.

It is now established that a substantial fraction of the information we seek on molecular motion in liquids is available in the electrical or optical 'noise' to be detected in these media. Drs. Pusey and Vaughan have provided a critical account of the current developments in the evaluation of light-scattering fluctuations from the informed position of established workers in this new field.

The later chapters deal with particular systems. Dr. Lestrade and colleagues summarize recent studies of electrolyte solutions: Dr. Graham Williams deals with the special features found in highly viscous media and their relation to more general molecular features: Professor Meier has provided a survey of the dielectric studies of liquid crystals, an area where much further work can safely be anticipated for a number of reasons: Dr. Parry Jones' chapter is concerned with the advances that have recently been made in the study of non-linear electric field effects. The first results for water and aqueous solutions suggest that much can now be expected in this field, whose wider aspects were surveyed by Professor Kielich in Volume 1. Finally, Dr. Kołodziej has written an account of dielectric dispersion in 'soft' (*i.e.* non-ceramic) ferro-electrics. The problems of adequately defining the cooperative dipole relaxation in these systems have long been well-known to those interested in these materials, and Dr. Kołodziej's own very valuable contributions to solving these problems form part of his chapter.

The Senior Reporter very much regrets that the chapters intended by Dr. Ishida (Osaka University) and by Dr. J. W. White (Oxford University) did not materialize for this volume.

