glass I–silver iodide, is shown in fig. 3; and for glass II – silver iodide composites in fig. 4. It is apparent from figs. 3 and 4 that the transition temperature of silver iodide was lowered in glass II – silver iodide composites and raised in glass I – silver iodide composites, thus confirming the prediction of the Clausius-Clapeyron equation. However, since there is some doubt regarding the applicability of the Clausius-Clapeyron equation for calculating internal stresses from changes in the transition temperature of crystals [7], stress calculations were not made.

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Short Notices

The Application of Modern Physical Techniques to Tribology

T. F. J. Quinn

Newes-Butterworth. p. 253 £3·60

Dr Quinn's approach in this book is to seek to show how the process of wear may be studied by modern physical techniques so that a better understanding of this process will lead to improved design of bearings and more accurate forecasting of their useful life. After the opening chapter in which the author discusses the elastic and plastic deformation of surfaces and the various hypotheses of wear there are four chapters devoted to specific techniques such as electron microscopy, X-ray crystallography, electron diffraction, electron microprobe analysis and scanning electron microscopy, that have been employed in tribological research. The author's approach in these chapters is particularly pleasing as he outlines quite fully the theory and limitations of each technique and then devotes a substantial part of the chapter to a discussion of the application of the technique to specific tribological investigations. The results of these investigations are so presented that the reader will be able to judge for himself whether or not the technique will be of value in his own studies.

Although the book is written for those engaged in teaching, studying or doing research in tribology, it should appeal to a much wider readership as it seeks to show how these modern techniques can be used to solve real problems and provide information not available from any other source.

R.A.F.

Gallium Arsenide and related compounds

Proceedings of the 3rd International Symposium, Aachen, October 1970

Editor: K. Paulis

Pp. vii + 297 (Institute of Physics, 1971) £6·25.

This volume is a compendium of 33 original papers on gallium arsenide, other III-V and mixed III-V compounds presented at the 1970 International Symposium. The papers cover two general areas, materials preparation and device technology. With the exception of one or two review papers there is little introductory material, which necessarily means a specialised

readership, but the book provides an excellent up-to-date survey of the field; essential reading for those working in this area.

The papers on materials preparation deal with the application of liquid encapsulation pulling to InP, the vapour growth of GaAs, $Al_xGa_{1-x}As$, $Ga_{1-x}In_xAs$, $In\,As_{1-x}P_x$, GaP and InP, and the liquid epitaxial growth of GaAs, InP and GaP all of which reflect the very significant improvements in electrical properties in the last two years. The device papers cover microwave devices, including the new InP three-level oscillator, opto-electronic devices, with work on $Ga_xAl_{1-x}As$, GaAs and $In_{1-x}Ga_xP$, and a number of other devices including GaAs field-effect transistors.

From the narrowest view-point of materials science, the absence of papers specifically on materials characterisation, with one unrepresentative exception, might be noted, but this exclusion is probably inevitable and one must again congratulate the organisers of this symposium in the linking of materials preparation and applications in one meeting, the result of which is an extremely well balanced report on this rapidly moving field.

A.F.W.W.