Optica Applicata, Vol. XVI, 2, 86

Book reviews

Color Measurement

Theme and Variations

D. L. MacAdam

Second Revised Edition

Springer Series in Optical Sciences, Vol. 27

Springer–Verlag, Berlin, Heidelberg, New York, Tokyo 1985
[pp. i–xiii + 230, with 92 Figs. and 4 Colorplates]

The review of the first edition of the book appeared in Optica Applicata, Vol. 12 (1982), p. 504. Some changes introduced into the second edition have not effected its content. In order, however, not to direct the reader to the previous review we shall briefly characterize both the author and his work.

David L. MacAdam has accompanied the contemporary colorymetry since its origin. As early as five years after the fameous VIII Session of Commission Internationale de l'Eclairage in Cambridge (Gt. Britain) which in 1931 had established the first colorimetric system, the so-called CIE 1931, justified physically and physiologically, he was the co-author of the monograph *Handbook of Colorimetry* (written under the direction of Prof. Arthur C. Hardy, MIT).

As Professor of Optics and Photography at MIT, Founder of MIT Color Measurement Laboratory, President of Optical Society of America, Chief of Camouflage Section of NDRC, investigator of some important colorimetric problems and photometric instruments, owner of Medals of Scientific and Manufacturing activities, Honorary D. Sc. (St. Lawrence University), and Honorary L. L. D. (University of California) David L. MacAdam is one of the most competent men to write a modern monograph on contemporary color measurement. The subject matter of *Color Measurement* by David L. Mac Adam is typical of a monograph used as a textbook by university students, although it is by the author briefly called textbook.

Among other subjects it, in particular, includes:

1. Fundamentals of color specification.
2. Introduction to spectrophotometry.
3. Additive and absorptive color mixtures, complementary colors and photometric interrelations.
4. Various determination of tristimulus values.
5. Colors of light and objects.
6. Color differences and related transformations of the chromaticity diagram.
7. Description of the main color-order system.
8. Color-matching functions.
9. Adaptation formulae for chromatic adaptation and color constancy phenomenon.

Colorymetry has become an extensive domain of science. That is why the problems must be appropriately selected if a monograph is to be written. David L. MacAdam has written a guide-book for colorimetric problems, putting the stress on their mathematical and physical aspects. Such subjects as experimental foundations of the methods of color measurements, physiology of color seeing and

technique of color measurement are only mentioned. Much information concerning these problems can be found in foot-notes. Due to such an arrangement of the book, the students are obliged to read complementary books, thus to a thorough and authentic study. According to my opinion, the advantages of this book would be greater if it was supplied with the list of notions and colorimetric quantities. As already mentioned, the book is very precious because of the modern and varsatile way the problems are discussed, and – what is more important – is saturated with a deep knowledge and many year experience of its author, the prominent optician and pioneer of the industrial application of color mixing.

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Integrated Optics

Proceedings of the Third European Conference, ECIO'85
Berlin, Germany, May 6–8, 1985

Eds. H.-P. NOLTING, R. ULRICH

Springer Series in Optical Sciences, Vol. 48

Springer-Verlag, Berlin, Heidelberg, New York, Tokyo
[pp. i–x + 242, with 195 Figures]

The reviewed book contains the most recent achievements in rapidly expanding integrated optics, presented at the Third European Conference held in Berlin, May 6–8, 1985. The topics covered include the applications of instrumentation, general signal processing, and optical computing to fiber-optics system, especially for the use of future communications. The state-of-the-art and some recent developments are described, as for instances hybrid and monolithic approaches to integrated optics, processing and preparation of materials, waveguides and amplifiers, as well as modulator and fundamental aspects of nonlinear optics and waveguiding.

The manuscripts of the contributed and invited papers presented at the conference, published in the Proccedings, are arranged and grouped according to the programme of the conference, i.e.:

I – Aplications (7 papers),
II – Material and Fabrication (11 papers),
III – Semiconductor-Devices (11 papers),
IV – Modulators (6 papers),
V – Fundamentals and Waveguiding (11 papers).

The invited papers having a review character were presented in the same order:

I – Digital Optical Computing, by A. W. LOHMAN,

II – Application of Electron Beam Lithography to Integrated Optics, by C. D. W. WILKINSON,

III – Progress in Integrated Optics Lasers, by Y. SUEMATSU,

IV – Parametric Processes in $LiNbO_2$, by D. B. OSTROWSKY,

V – Nonlinear Integrated Optics, by C. T. SEATON et al.

This book is mainly intended for research workers, but also for everyone, who is interested in the new technologies, technics and instrumentation of the future.

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