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OPTOELECTRONIC SCIENCE AND ENGINEERING '90

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International Conference on Optoelectronic Science and Engineering '90, edited by DaHeng Wang, Proc. of SPIE Vol. 1230, 123001 · © (1990) 2017 SPIE · CCC code: 0277-786X/17/$18 · doi: 10.1117/12.2294638

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PREFACE

I am delighted to be able to write the preface for this SPIE Proceedings and heartily thank the conference chair, Wang Da-Heng, and cochairs for affording me this opportunity. This proceedings represents the first fruits of numerous discussions between optical researchers in The People's Republic of China and SPIE—the International Society for Optical Engineering, fruits that we hope to witness the maturation of in the years to come.

The sessions are varied and include one on optoelectronics, electro-optics, acousto-optics, and magneto-optics. Other sessions focus on intelligent electro-optical sensors, optoelectronic testing, laser devices, infrared, fibers, image processing, optical disks, bistability, and pattern recognition. These topics are all of intense interest worldwide, as witnessed by the number of countries represented—Japan, Italy, the United States, and Great Britain, to name a few. A large proportion of the papers are from the host country, China, and provide a glimpse of the wide range of activity in optics there.

Several papers that caught my eye, partly because of my own interests, include "Liquid-crystal infrared optics and applications," "Temperature mapping by double grating diffractions systems," "Infrared-transmitting fluoroaluminate glasses," and "A new method of radiation calibration ... for the VHRSR." Other papers describe MRTD testing, infrared planar waveguides, and more. These topics range from the highly theoretical to the extremely practical; all promise interesting material. I look forward to even greater international cooperation among scientists, including engineers, and applaud this proceedings as a stellar example of the benefits of such cooperation.

William L. Wolfe
Immediate Past President of SPIE

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INTRODUCTION

Recently, optoelectronic science and technology have made remarkably quick progress. For the sake of furthering the exchange of academic views and of promoting international camaraderie, the International Conference on Optoelectronic Science and Engineering '90 is to be held in Beijing, China, 22–25 August 1990. It is a great honor for us, the Chinese Optical Society, to cooperate with our cosponsors in hosting this grand meeting.

Thanks are due to all the authors and members of the conference committee who worked together to bring this volume into being. All the papers collected here were selected by the program committee. These papers contain significant new material in the form of ideas, implementations, and applications of optoelectronic technology. A total of 273 papers are included in this proceedings; 226 papers are written by authors from China and 47 papers are by authors from other countries or regions. These papers are grouped into the 12 topical areas listed below:

1. New Devices in the Fields of Optoelectronics, Electro-Optics, Acousto-Optics, Magneto-Optics, Specialized Modulators and Their Integrations;
2. Optoelectronic Intelligent Sensors;
3. Optoelectronic Test, Analysis, Measurement, and Control;
4. Laser Devices and Their Applications;
5. Infrared Optics, Low-Level Light Technology, and Applications;
6. Fiber Optic Devices and Applications;
7. Photovoltaic Technology and Solar Energy Systems;
8. Hybrid System for Image Processing;
9. Optical Disk Information Storage and Retrieval;
10. Optical Bistability and Optical Computing;
11. Pattern Recognition and Robot Vision;
12. Artificial Intelligence of Optical Equipment.

It is anticipated that this volume will be a valuable contribution to the development of optoelectronic science and technology. I wish to extend my thanks to all authors, members of the program committee, and secretariat of the conference for their hard work during the preparation of this conference and proceedings. We are grateful to all our cosponsors for their energetic support and sincere cooperation, especially to SPIE, who published and issued this proceedings of ICOESE '90.

I would also like to express a hearty welcome to all participants and accompanying guests coming from various regions of the world to join us and hope that all of you will have a very enjoyable stay in Beijing. Best wishes for a successful conference.

Wang Da-Heng
Chinese Optical Society (China)