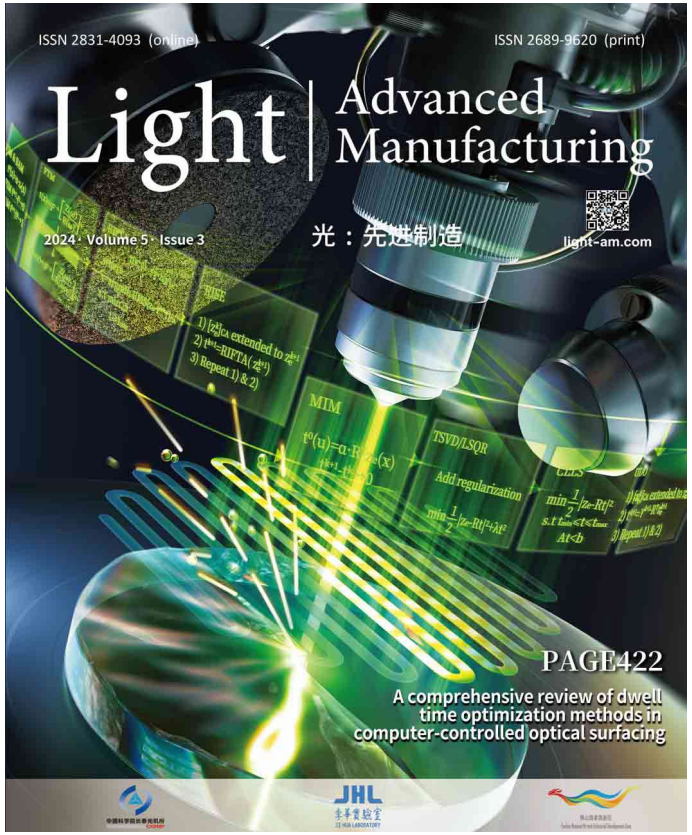
Optimizing "Dwell Time" for Higher Quality Optical Lenses



The work was featured on the cover of the journal.

T. Wang, X. Ke, L. Huang, Q. Cui, Z. Zhang, C. Wang, H. Kang, W. Pullen, H. Choi, D. Kim, V. Negi, Q. Kemao, Y. Zhu, S. Giorgio, P. Boccabella, N. Bouet, C. Austin, M. Idir. *Light: Advanced Manufacturing* **5**, 21 (2024).

Work was performed at NSLS-II

National Synchrotron Light Source II

Scientific Achievement

Researchers propose a way to optimize "dwell time" in the computer-controlled fabrication of high-end optical surfaces.

Significance and Impact

Determining optical dwell time – the brief hover time needed by automated tools that polish lenses, for example – enables higher quality, more specialized optics.

Research Details

- Optimizing dwell time is a challenge because there are many factors and possible approaches to consider.
- Researchers conducted an analysis of eight existing dwell time optimization methods and propose a unified approach that recommends three for future applications.
- Study was conducted at the Optical Metrology Laboratory at NSLS-II.

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE
INDIAN INSTITUTE OF TECHNOLOGY, DELHI
THE UNIVERSITY OF ARIZONA
THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學