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## Laser optics for high power laser facility

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National Laboratory on High Power Laser and Physics (CAS) has long been committed to the researches on high-power laser system and high-energy density physics. The SG-II facility in the lab is of great importance in advancing national strategic high-tech innovation, basic science and innovation at the frontiers of interdisciplinary science. High power laser device is an ultra-precision optical system running under the condition of high flux, which contains thousands of large-aperture optical components. Optical component performance will directly or indirectly affect the overall performance of the laser system. To ensure stable operation of the system, a set of optical component technical specifications are established, including laser characteristics, wavefront characteristics, loss characteristics and characteristics of the damage. In this presentation, we analyses the character for high power laser optics components, and give the technique to manufacture. We provide a reference for improving the surface defect standard and optimizing the design of high-power laser system.

### Biography

Jianqiang Zhu is working as a Senior Professor of Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS). He has been devoted to the long-term study in the fields of high-power laser system. This includes laser device design, optical engineering, optical beam propagation and control etc. As a Chief Scientist, he was responsible for several major projects such as Shenguang-II (SG-II) laser facility, SG-II multifunction high-energy laser systems, upgrading SG-II laser device, 3ps petawatt and 30fs multi-petawatt laser facilities, which has contributed immensely to the establishment and development of high-power laser system for ICF study in China. "SG-II multifunction high-energy laser systems" has won the National Science and Technology Progress Award in 2013. He has published 320 papers on international journals and holds 50 patents where including 4 patents in USA and Japan. And more than 50 Doctoral theses were completed under his supervision.

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