



About the cover: *Advanced Photonics Nexus* Volume 2, Issue 6

Rapid development of ultra-intense ultrashort lasers has been made by titanium:sapphire chirped pulse amplification. However, it appears to have an upper limit of 10-petawatt. Presently, for 10-petawatt to 100-petawatt development planning, researchers generally abandon this technology, and turn to optical parametric chirped pulse amplification technology. Yet titanium:sapphire chirped pulse amplification, as a mature technology that has successfully realized two 10-petawatt lasers, still has great potential for the next-stage development. Reasons for the 10-petawatt upper limit include limited titanium:sapphire sizes, transverse amplified spontaneous emission, and parasitic lasing.

The image on the cover for *Advanced Photonics Nexus* Volume 2 Issue 6 illustrates tiled-titanium:sapphire chirped pulse amplification. It can expand titanium:sapphire sizes, truncate transverse amplified spontaneous emission, suppress parasitic lasing, and, importantly, eliminate the need for complex space-time tiling control. The image is based on original research presented in the article “Coherently tiled Ti:sapphire laser amplification: a way to break the 10 petawatt limit on current ultraintense lasers,” by Yanqi Liu, Keyang Liu, Zhaoyang Li, Yuxin Leng, and Ruxin Li (doi [10.1117/1.APN.2.6.066009](https://doi.org/10.1117/1.APN.2.6.066009)).