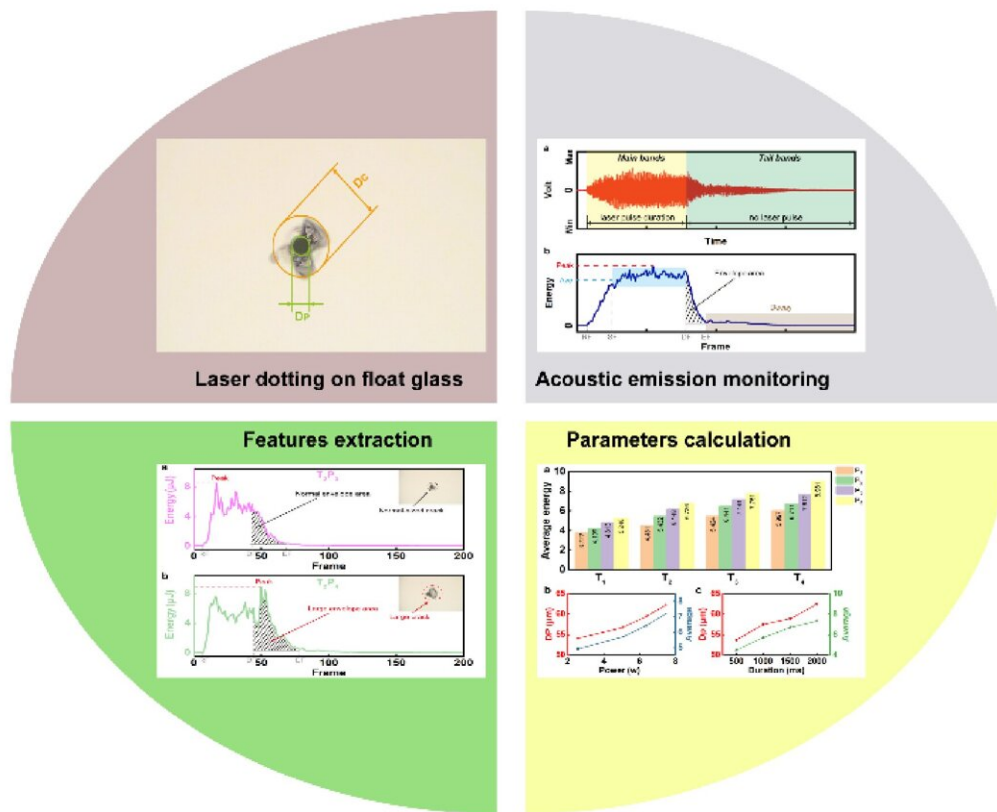


Acoustic emission monitoring technique, an essential way to analyze pulsed laser processing

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Intelligent acoustic emission monitoring method. Credit: Frontiers Journals

Acoustic emission (AE) monitoring is used to reveal the interaction

mechanisms in pulsed laser processing of float glass. Circular ablated pits and irregular shaped cracks are formed on the float glass's upper surface by the pulsed laser dotting. By analyzing the AE signals, the intensity of laser ablation can be assessed, and the formation of large crack can be extracted.

A recent study proves that it is feasible to apply AE monitoring to study the pulsed [laser](#) dotting process of float glass, and provides an alternative for monitoring study of pulsed laser processing of other brittle materials.

Researchers led by Prof. Yu Huang at Huazhong University of Science and Technology (HUST), China, are interested in laser fine processing technology and equipment. Their research focuses on short pulsed/ultrafast laser processing of various hard-to-process materials, such as glass, ceramics, and [composite materials](#).

The work, titled "Revealing the interaction mechanism of pulsed laser processing with the application of acoustic emission," was published on *Frontiers of Optoelectronics* on June 14, 2023.

By optimizing the laser machining quality, exploring the interaction mechanism, and monitoring the machining process, researchers have established a more complete stereoscopic research system, further realizing the relevant laser machining equipment manufacturing.

More information: Weinan Liu et al, Revealing the interaction mechanism of pulsed laser processing with the application of acoustic emission, *Frontiers of Optoelectronics* (2023). [DOI: 10.1007/s12200-023-00070-7](https://doi.org/10.1007/s12200-023-00070-7)

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