Invitation to the 91. AMAP Colloquium

Presentation by

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High-Efficiency Fiber Lasers – An Economic Tool for Processing Aluminum in a Wide Range of Applications

on Thursday, ***January 23rd, 2025 at 4.00 pm***
with subsequent discussion at AMAP

All interested persons are sincerely invited to the AMAP foyer.
Snacks and refreshments will be available.

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High-Efficiency Fiber Lasers – An Economic Tool for Processing Aluminum in a Wide Range of Applications

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Abstract

In recent years, advancements in laser systems and process technologies have significantly enhanced the processing of aluminum, as well as other highly reflective and conductive materials. The growing demands of e-mobility and battery technology have driven innovations focused on faster, cleaner, and more efficient solutions.

A pivotal breakthrough in this area is the development of static and dynamic beam shaping techniques, which minimize spatter to enable cleaner and safer processes. Complementing these advancements are sophisticated quality control and process monitoring systems, ensuring 100% traceability of each weld and position, thereby supporting highly automated production environments.

For other applications such as cutting, cleaning, and 3D printing, newly designed laser sources have been introduced, offering tailored solutions to boost productivity and process efficiency.

This presentation provides an overview of recent innovations in fiber laser and process technologies, showcasing their application potential in aluminum processing.