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Laser Assisted Machining Method and Device Using Multiple Laser Beams

An advanced laser manufacturing solution for turning operations enhances tool longevity and reduces per-part cutting time while enabling multi-material processing on a single machine.

There are several uses for lasers in manufacturing, including laser assisted machining, material deposition, and hardening. Many laser manufacturing solutions are used to provide the heat to these. In addition, there are few laser manufacturing solutions that are effective with ceramics.

Researchers at Purdue University have developed an advanced laser manufacturing solution which has several applications in a turning operation. One major application of this system is laser assisted machining. The use of lasers assists material removal from a workpiece. This increases the life of the cutting tool by reducing wear.

Advantages:

-Increases life of other machining tools

-Decrease per part cutting time

-Allows multiple materials to be processed on one machine

Potential Applications:

-Materials

-Manufacturing

TRL: 7

Intellectual Property:

Provisional-Patent, 2005-09-07, United States | Utility Patent, 2006-09-07, United States | NATL-Patent, 2006-09-07, Canada | CON-Patent, 2011-09-08, United States

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