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Impulse-Based Manufacturing Technologies

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In impulse-based manufacturing technologies, the energy required to form, join or cut components acts on the workpiece in a very short time and suddenly accelerates workpiece areas to very high velocities. The correspondingly high strain rates, together with inertia effects, affect the behavior of many materials, resulting in technological benefits such as improved formability, reduced localizing and springback, extended possibilities to produce high-quality multi material joints and burr-free cutting. This Special Issue of *JMMP* presents the current research findings, which focus on exploiting the full potential of these processes by providing a deeper understanding of the technology and the material behavior and detailed knowledge about the sophisticated process and equipment design. The range of processes that are considered covers electromagnetic forming, electrohydraulic forming, adiabatic cutting, forming by vaporizing foil actuators and other impulse-based manufacturing technologies. Papers show significant improvements in the aforementioned processes with regard to:

- Processes analysis;
- Measurement technique;
- Technology development;
- Materials and modelling;
- Tools and equipment;
- Industrial implementation.

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