

## Application of Laser Shock Processing

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**Laser Shock Processing (LSP), or strengthening the material surface by laser shock wave is very modern and progressive technique, which allows a significant increase in fatigue life of cyclically loaded parts. The compressive residual stresses are generated in the surface layer of material processed by laser beam, which can significantly improve the fatigue properties of the material and reduce the initiation and propagation of the surface cracks. This technique finds practical use of the most demanding applications like in the aerospace industry. For this reason, we are mapping the selected surface properties after the laser treatment for the better understanding of technology possibilities. After that another suitable applications can be found. It is also important to determine appropriate parameters for different types of material and requirements affecting the result.**

**Keywords:** Laser shock processing, surface integrity, residual stress

### Acknowledgements

*This work was supported by the Grant Agency of the Czech Technical University in Prague, grant No. SGS13/188/OHK2/3T/12. And this work benefitted from the support of the Czech Republic's Ministry of Education, Youth and Sports to the HiLASE (CZ.1.05/2.1.00/01.0027) and DPSSLasers (CZ.1.07/2.3.00/20.0143) projects co-financed from the European Regional Development Fund.*

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Richard D. Tenaglia & David F. Lahrman Box 1. The laser-peening proces Surface treatment: Shock tactics Nature Photonics 3, 267 - 270 (2009) ISSN: 1749-4885

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Paper number: M201549

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