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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel)	:	Quantification of rare earth elements with low pressure laser induced breakdown spectroscopy employing subtarget supported micro mesh sample holder
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Status Pengusul	:	~~Penulis pertama~~/ Penulis ke 15 / ~~Penulis Korespondesi~~ **
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b. Ruang lingkup dan kedalaman pembahasan (30%)	12			11,6
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d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12			11,3
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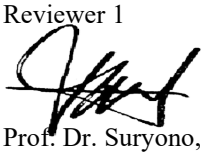
Semarang, 20 April 2021
Reviewer 1



Prof. Dr. Suryono, S.Si., M.Si.
NIP. 197306301998021001
Unit Kerja : Fisika
Bidang Ilmu: Fakultas Sains dan Matematika

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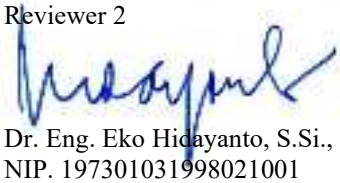
Reviewer 2



Dr. Eng. Eko Hidayanto, S.Si., M.Si.
NIP. 197301031998021001
Unit Kerja : Fisika
Bidang Ilmu: Fakultas Sains dan Matematika

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c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	11,7	11,7	11,7
d. Kelengkapan unsur dan kualitas penerbit (30%)	11,3	11,6	11,45
Total = (100%)			38,6
Nilai untuk Pengusul : 20% x (38,6/14) = 0,55			

Semarang, 24 Februari 2021

Reviewer 1

Prof. Dr. Suryono, S.Si., M.Si.
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Bidang ilmu/Unit kerja : Fakultas Sains dan Matematika/Fisika

Reviewer 2

Dr. Eng. Eko Hidayanto, S.Si., M.Si.
NIP. 197301031998021001
Bidang ilmu/Unit kerja : Fakultas Sains dan Matematika/Fisika

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Quantification of rare earth elements with low pressure laser induced breakdown spectroscopy employing subtarget supported micro mesh sample holder

1

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Journal of Laser Applications, 2019, 31(3), 032001

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Presented in this paper are the results of practical application of laser-induced breakdown spectroscopy to sensitive detection of rare earth elements (REEs) in trace amounts using a Cu subtarget supported stainless steel micro mesh (SSMM) powder sample holder. Powder samples containing separately a number of REEs (Yb, Y, Eu, and La) are measured using the SSMM sample holder and a 68 mJ ns Nd:YAG laser with ~5 mm defocused irradiation in 1.3 kPa ambient air. All the resulted emission spectra are shown to exhibit excellent spectral quality featuring well resolved sharp spectral lines with low background and without spectral interference from the sample holder. Further measurements of additional powder samples with varied content of REEs are performed to reveal the existence of linear calibration lines with extrapolated zero intercept and well below 100 ppm detection limits promising for practical quantitative REEs analysis, particularly for sensitive field exploration of REEs.

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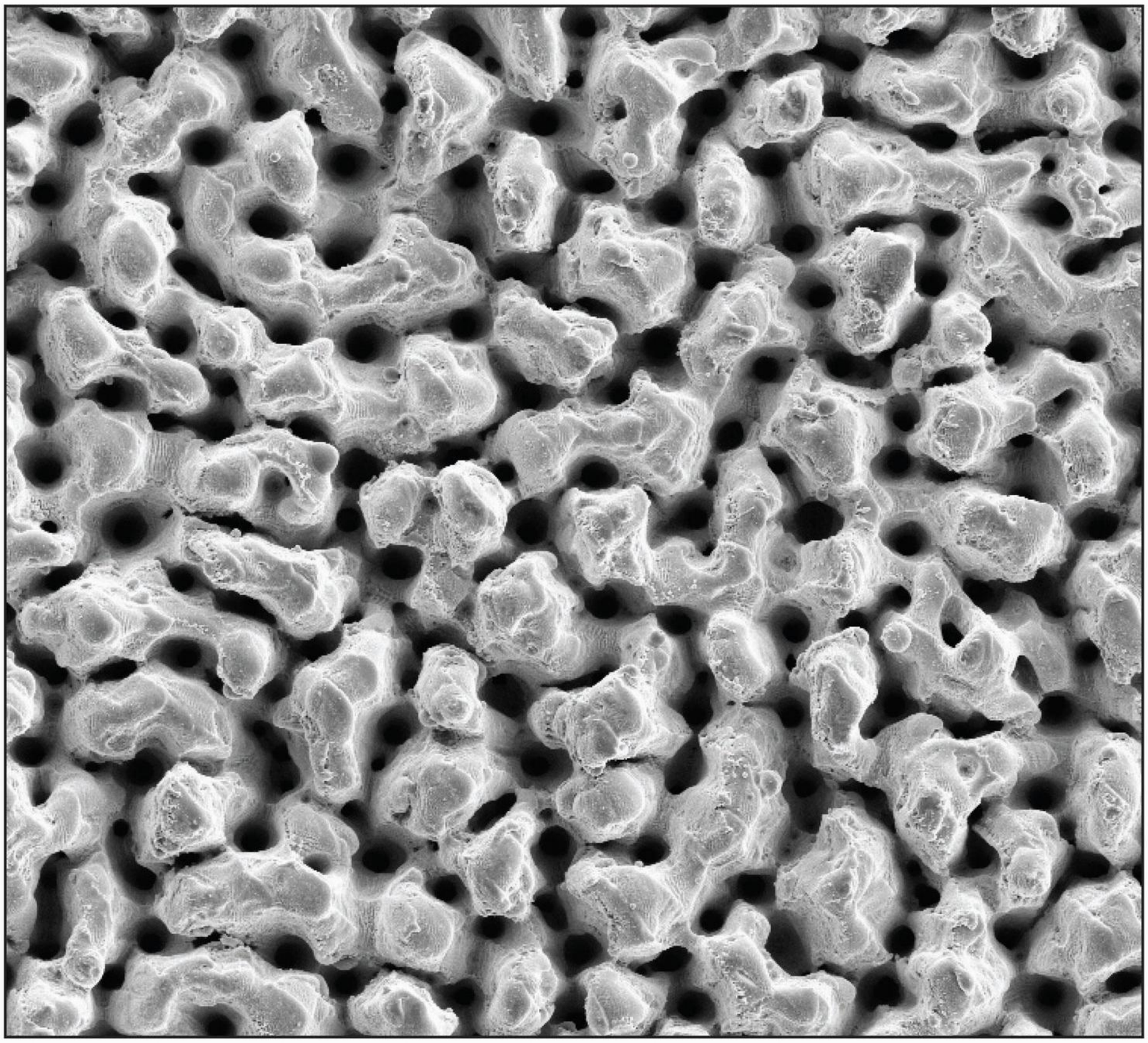

Volume 31, Issue 1, Feb. 2019

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Journal of Laser Applications **30**, 032401 (2018); https://doi.org/10.2351/1.5040616

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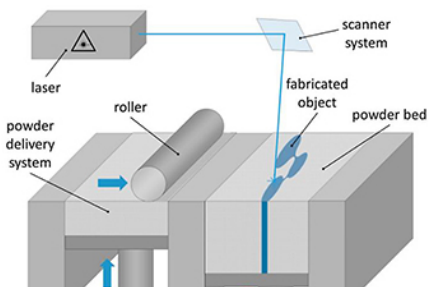

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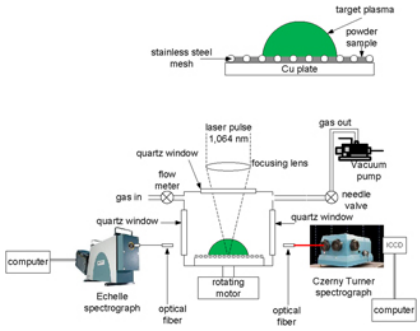

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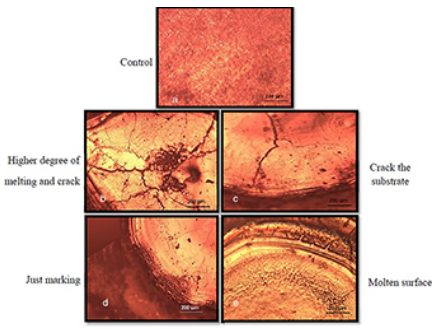

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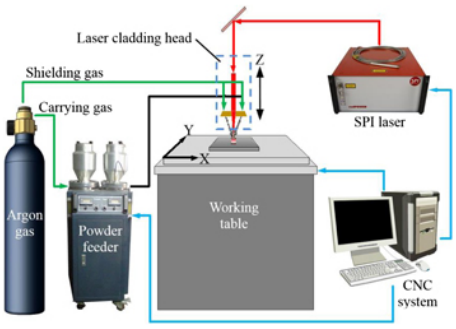

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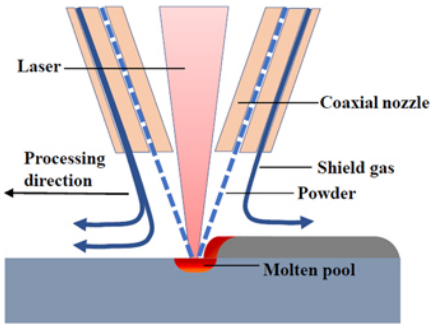

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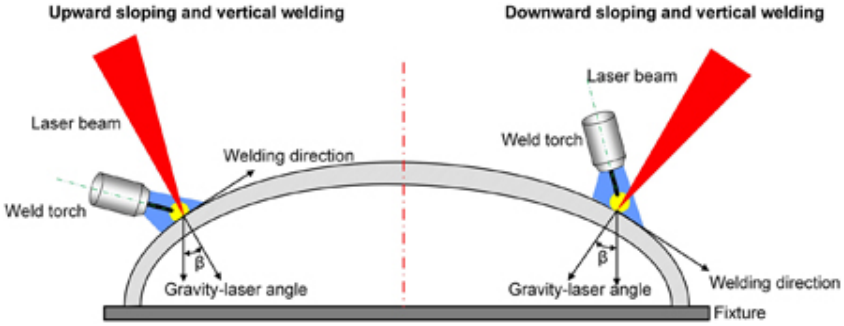

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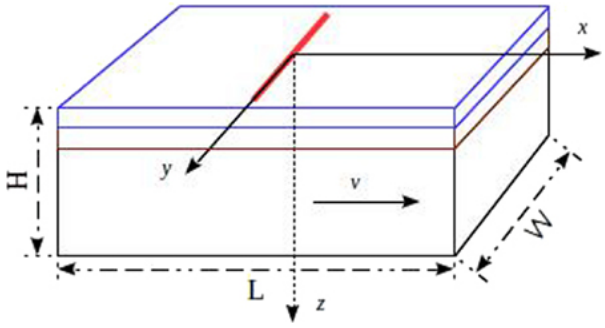

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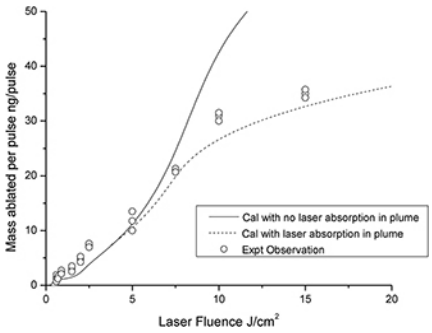

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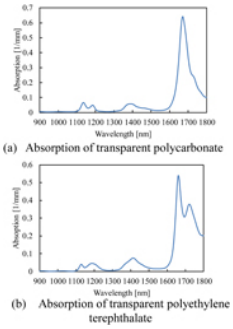

(a) Absorption of transparent polycarbonate

(b) Absorption of transparent polyethylene terephthalate

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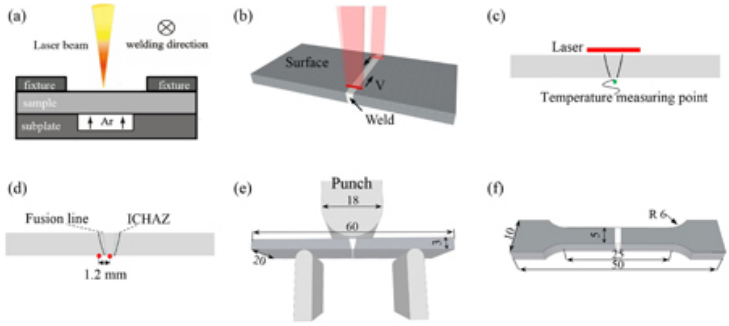

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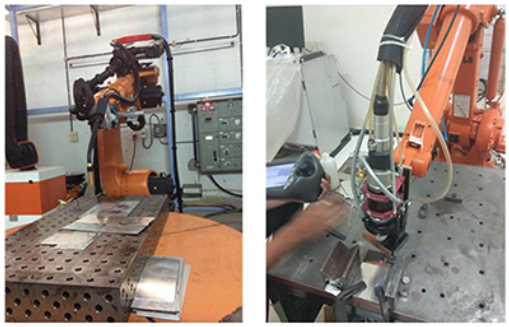

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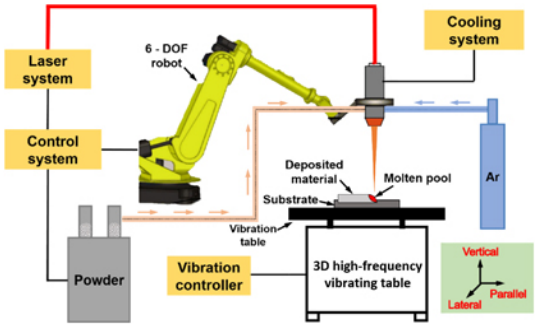

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Zhehe Yao, Xiaowen Yu, Yanbin Nie, Xijiang Lu, Qunli Zhang and Jianhua Yao

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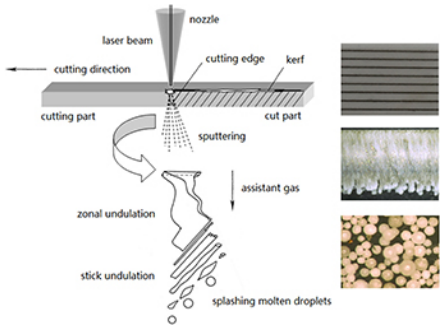

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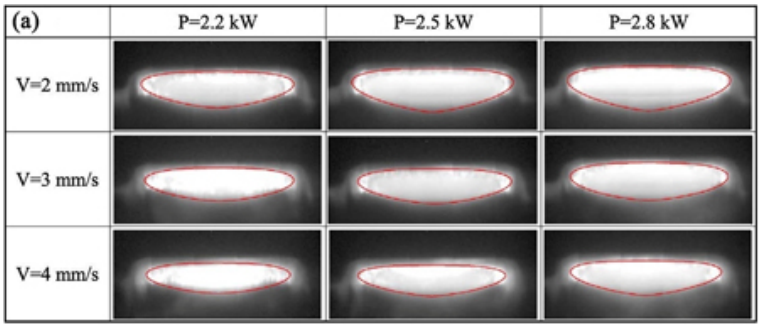

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Preparation of thin NiCrBSi laser cladding layers with no microcracking and low dilution

Qingke Zhang, Zheng Wang, Fangqin Hu and Zhenlun Song

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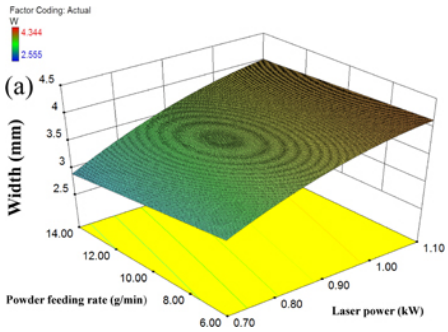

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Jie Zhang, Qunli Zhang, Zhijun Chen, Dong Li, Wenhua Tong, Jianhua Yao and Volodymyr Kovalenko

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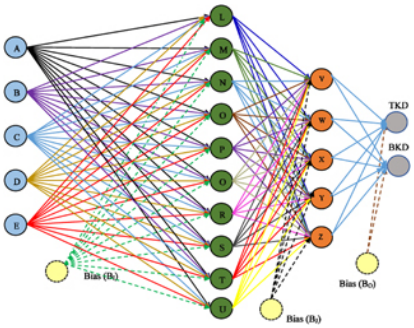

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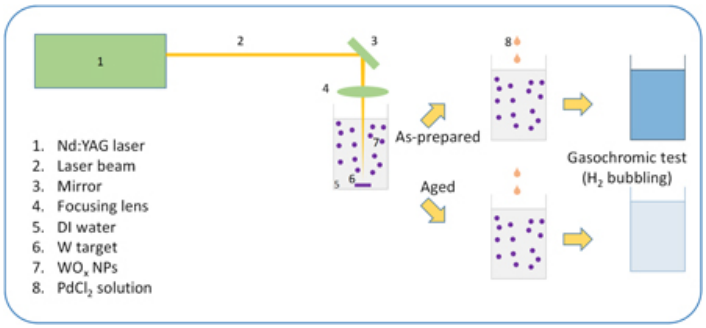

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H. Kalhori, M. Ranjbar, H. Farrokhpour and H. Salamati

Journal of Laser Applications **31**, 032018 (2019); https://doi.org/10.2351/1.5110352

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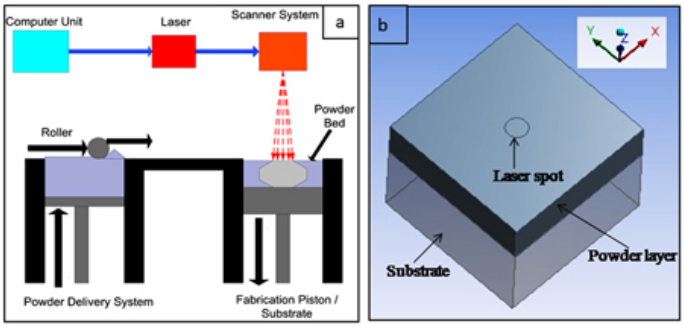

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Mihir Samantaray, Seshadev Sahoo and Dhirendranath Thatoi

Journal of Laser Applications **31**, 032019 (2019); https://doi.org/10.2351/1.5104318

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SPECIAL TOPIC: PROCEEDINGS OF THE INTERNATIONAL CONGRESS OF APPLICATIONS OF LASERS & ELECTRO-OPTICS (ICALEO 2018)

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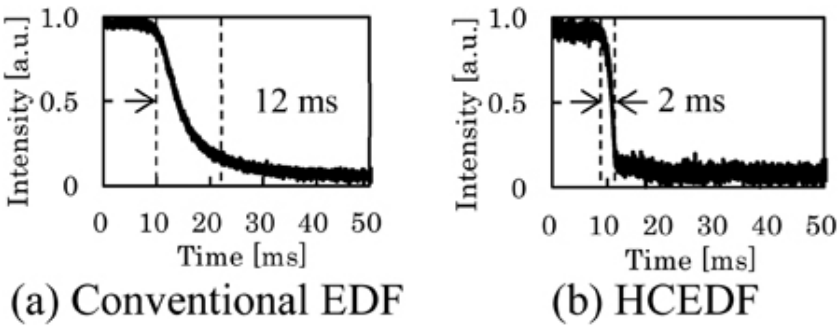

No Access . August 2019

Development of all-fiber Fabry-Perot pulse laser with a fiber

BROWSE VOLUMES

characteristics

Shogo Fukuyama, Minoru Yoshida and Yasushi Fujimoto

Journal of Laser Applications **31**, 032601 (2019); https://doi.org/10.2351/1.5096150

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Errata

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Erratum: “Three-dimensional analysis of biological systems via a novel laser ablation technique” [J. Laser Appl. 31, 022602 (2019)]

Benjamin Hall, Asheesh Lanba and Jonathan P. Lynch

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Microstructure evolution during selective laser melting of metallic materials: A review

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ABSTRACT

Selective laser melting (SLM) is an additive manufacturing technology that uses a laser beam to melt powder materials together layer by layer for solid part fabrication. Due to its superior rapid prototyping capability of three-dimensional structures, SLM has been used for widespread industrial applications including aerospace, automotive, electronics, and biomedical devices. As a state-of-the-art technology, ongoing investigations are being conducted to improve the efficiency and effectiveness of SLM. In particular, understanding of microstructure evolution during SLM is essential to achieve improved process control and ensure the performance of laser-fabricated components. This paper is to review the recent research and development progress in SLM of metallic materials with a focus on the process–microstructure relationship. The grain growth and porosity evolution as affected by laser processing parameters in the SLM process are discussed. Phase transformation in SLM of steel and titanium alloys is studied. The formation of precipitates in SLM of titanium, nickel, and aluminum/magnesium alloys is reviewed. The balling phenomenon and cracking behaviors during SLM are discussed. In addition, the recent development of computational modeling of microstructure evolution during SLM is investigated.

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Application of lasers in the synthesis and processing of two-dimensional quantum materials

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ABSTRACT

Recently, two-dimensional (2D) quantum materials and particularly transition metal dichalcogenides have emerged as an exciting class of atomically thin materials that possess extraordinary optoelectronic and photonic properties. The strong light interactions with these materials not only govern their fascinating behavior but can also be used as versatile synthesis and processing tools to precisely tailor their structures and properties. This review highlights the recent progress in laser-based approaches for synthesis and processing of 2D materials that are often challenging via conventional methods. In the synthesis section, the review covers the pulsed laser deposition as the main growth method due to its ability to form and deliver atoms, clusters, or nanoparticles for the growth of 2D materials and thin films with controlled stoichiometry, number of layers, crystallite size, and growth location. It is also shown that the tunable kinetic energy of the atoms in the laser plume is essential for healing defects and doping of 2D layers. In the processing section, the review highlights the application of lasers in crystallization, sintering, direct writing, thinning, doping, and conversion of 2D materials. The spatial and temporal tunability, controlled energy, and power densities of laser beams enable a broad spectrum of applications in the synthesis and processing of 2D quantum materials that are not accessible by other means.

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