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

Judul Jurnal Ilmiah (Artikel) : Rapid Detection of Oil Pollution in Soil by Using Laser-Induced Breakdown Spectroscopy
 Nama/ Jumlah Penulis : 5 Orang
 Status Pengusul : ~~Penulis pertama~~/Penulis ke 3/~~Penulis Korespondensi~~ **
 Identitas Jurnal Ilmiah : a. Nama Jurnal : Plasma Science and Technology
 b. Nomor ISSN : 1009-0630
 c. Vol, No., Bln Thn : Vol 18 No 12, Desember 2016
 d. Penerbit : IOP Publishing Ltd.
 e. DOI artikel (jika ada) : 10.1088/1009-0630/18/12/08
 f. Alamat web jurnal : <https://iopscience.iop.org/article/10.1088/1009-0630/18/12/08/pdf>
 Alamat Artikel : Berbayar
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 (beri ✓ pada kategori yang tepat) ☐ Jurnal Ilmiah Nasional Terakreditasi
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	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi jurnal (10%)	4	3,6	3,8
b. Ruang lingkup dan kedalaman pembahasan (30%)	11,5	11,7	11,6
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	11	11,7	11,35
d. Kelengkapan unsur dan kualitas penerbit (30%)	11	11,8	11,4
Total = (100%)			38,15
Nilai untuk Pengusul : $(40\% \times 38,15) / 4 = 3,82$			

Reviewer 1



Prof. Dr. Agus Subagio, S.Si., M.Si.
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 Bidang Ilmu: Fisika

Semarang, 4 Februari 2022

Reviewer 2



Dr. Eng. Eko Hidayanto, S.Si., M.Si.
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 Bidang Ilmu: Fisika

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c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12			11
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12			11
Total = (100%)	40			37,5
Nilai Pengusul = 40% x ¼ x 37,5 = 3,75				

Catatan Penilaian artikel oleh Reviewer :

1. Kesesuaian dan kelengkapan unsur isi jurnal:

Artikel yang disusun telah sesuai dengan template jurnal. Bidang ilmu pengusul/anggota penulis sesuai dengan artikel yang dibahas. Isi jurnal sesuai, lengkap dan tepat dengan komponen-komponennya: abstrak, pendahuluan, eksperimen, hasil dan pembahasan, kesimpulan, serta daftar pustaka.

2. Ruang lingkup dan kedalaman pembahasan:

Paper membahas tentang pengujian terhadap polusi minyak di tanah dengan cara sampel tanah dipelet (diambil kasus yang terkontaminasi dan bersih dari minyak) dan ditembak dengan laser-induced breakdown spectroscopy (LIBS) dari Nd:YAG menjadi plasma bersuhu tinggi. Spektrum emisi atom digunakan untuk menganalisis perbedaan untuk tanah bersih dan tanah yang terkontaminasi minyak yang mempunyai pita C-H dan garis Ti.

3. Kecukupan dan kemutakhiran data/informasi dan metodologi:

Penelitian ini menggunakan metode LIBS dari laser Nd:YAG yang spektrumnya jauh lebih baik bila dibandingkan metode spektroskopi sinar-X (SEM/EDX). Paper didukung oleh 30 referensi yang cukup baik. Hasil turnitin menunjukkan nilai kesamaan sebesar 21%.

4. Kelengkapan unsur dan kualitas terbitan:

Paper diterbitkan dalam jurnal berkualitas Q3 dengan SJR (2021) = 0,41 oleh IOP Publishing Ltd. dengan unsur-unsur yang lengkap serta kualitas yang sangat baik

Semarang, 4 Februari 2022

Reviewer 1



Prof. Dr. Agus Subagio, S.Si., M.Si.

NIP. 19710813 1995121001

Unit Kerja : Fisika

Bidang Ilmu: Fakultas Sains dan Matematika

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d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12			11,8
Total = (100%)	40			38,8
Nilai Pengusul = 40% x ¼ x 38,8 = 3,88				

Catatan Penilaian artikel oleh Reviewer :

1. Kesesuaian dan kelengkapan unsur isi jurnal:

Isi jurnal sesuai dan lengkap dengan komponen-komponennya: abstrak, pendahuluan, prosedur eksperimental, hasil dan pembahasan, kesimpulan, dan daftar pustaka, semuanya sesuai dan tepat.

2. Ruang lingkup dan kedalaman pembahasan:

Paper ini meneliti polusi minyak di tanah. Sampel tanah yang dipelet (diambil kasus yang terkontaminasi dan bersih dari minyak) dibombardir dengan laser-induced breakdown spectroscopy (LIBS) dari Nd:YAG menjadi plasma bersuhu tinggi. Melalui spektrum emisi atom, diperoleh perbedaan untuk tanah bersih batas deteksi pita C-H adalah 0,001 mL/g sedangkan tanah terkontaminasi minyak mempunyai pita C-H dan garis Ti.

3. Kecukupan dan kemutakhiran data/informasi dan metodologi:

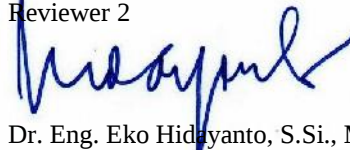
Data-data serta metodologi yang digunakan baik dan mendukung riset ini. Penelitian ini menggunakan metode LIBS dari laser Nd:YAG yang spektrumnya jauh lebih baik bila dibandingkan metode spektroskopi sinar-X (SEM/EDX).

4. Kelengkapan unsur dan kualitas terbitan:

Karya ini diterbitkan dalam jurnal berkualitas Q3 dengan SJR 2021 0,41 oleh IOP Publishing Ltd. dengan unsur-unsur yang lengkap serta kualitas yang sangat baik.

Semarang, 20 Februari 2023

Reviewer 2



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Unit Kerja : Fisika

Bidang Ilmu: Fakultas Sains dan Matematika



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Rapid Detection of Oil Pollution in Soil by Using Laser-Induced Breakdown Spectroscopy

[Khumaeni, Ali^a](#); [Budi, Wahyu Setia^a](#); [Wardaya, Asep Yoyo^{a, b}](#); [Hedwig, Rinda^c](#); [Kurniawan, Koo Hendrik^d](#) 
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Zhan, H. , Meng, Z. , Ren, Z. (2022) *IEEE Transactions on Instrumentation and Measurement*

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Detection of oil pollution in soil has been carried out using laser-induced breakdown spectroscopy (LIBS). A pulsed neodymium-doped yttrium aluminum garnet (Nd:YAG) laser (1,064 nm, 8 ns, 200 mJ) was focused onto pelletized soil samples. Emission spectra were obtained from oil-contaminated soil

and clean soil. The contaminated soil had almost the same spectrum profile as the clean soil and contained the same major and minor elements. However, a C-H molecular band was clearly detected in the oil-contaminated soil, while no C-H band was detected in the clean soil. Linear calibration curve of the C-H molecular band was successfully made by using a soil sample containing various concentrations of oil. The limit of detection of the C-H band in the soil sample was 0.001 mL/g. Furthermore, the emission spectrum of the contaminated soil clearly displayed titanium (Ti) lines, which were not detected in the clean soil. The existence of the C-H band and Ti lines in oil-contaminated soil can be used to clearly distinguish contaminated soil from clean soil. For comparison, the emission spectra of contaminated and clean soil were also obtained using scanning electron microscope-energy dispersive X-ray (SEM/EDX) spectroscopy, showing that the spectra obtained using LIBS are much better than using SEM/EDX, as indicated by the signal to noise ratio (S/N ratio).

Author keywords

C-Hmolecular band; laser-induced breakdown spectroscopy; LIBS; oil pollution; soil analysis

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PAPER

Fast Data Processing of a Polarimeter-Interferometer System on J-TEXT*

Yukai Liu (刘煜锴)^{1,3}, Li Gao (高丽)², Haiqing Liu (刘海庆)¹, Yao Yang (杨曜)¹,
Xiang Gao (高翔)^{1,3} and J-Text Team²

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2. Accepted 10 May 2016

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Abstract

A method of fast data processing has been developed to rapidly obtain evolution of the electron density profile for a multichannel polarimeter-interferometer system (POLARIS) on J-TEXT.

Compared with the Abel inversion method, evolution of the density profile analyzed by this method

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PAPER

Discharge Characteristics of Large-Area High-Power RF Ion Source for Positive and Negative Neutral Beam Injectors*

Doo-Hee Chang¹, Seung Ho Jeong¹, Min Park¹, Tae-Seong Kim¹, Bong-Ki Jung¹, Kwang Won Lee¹ and Sang Ryul In¹

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Abstract

A large-area high-power radio-frequency (RF) driven ion source was developed for positive and negative neutral beam injectors at the Korea Atomic Energy Research Institute (KAERI). The RF ion source consists of a driver region, including a helical antenna and a discharge chamber, and an expansion region. RF power can be transferred at up to 10 kW with a fixed frequency of 2 MHz

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