2LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel)	:	Synthesis of Double Layer ZnO/ZnO:Fe by Coating Method for Tetracycline Degradation		
Nama/ Jumlah Penulis	:	3 Orang		
Status Pengusul	:	Penulis ke-3		
Identitas Jurnal Ilmiah	:	a. Nama Jurnal	:	International Journal of Scientific Research in Science and Technology (IJSRST)
		b. Nomor ISSN	:	2395-602X
		c. Vol, No., Bln Thn	:	Vol. 9, No. 3, Mei-Juni 2022
		d. Penerbit	:	TechnoScience Academy
		e. DOI artikel (jika ada)	:	https://doi.org/10.32628/IJSRST2293119
		f. Alamat web jurnal	:	https://ijsrst.com
		Alamat Artikel	:	https://ijsrst.com/paper/9645.pdf
		g. Terindex	:	-

Kategori Publikasi Jurnal Ilmiah (beri ✓pada kategori yang tepat)	:	√	Jurnal Ilmiah Internasional/~~Internasional Bereputasi~~
			Jurnal Ilmiah Nasional Terakreditasi
			Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi jurnal (10%)	1,7	2	1,85
b. Ruang lingkup dan kedalaman pembahasan (30%)	5,7	5,5	5,6
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	5,7	5	5,35
d. Kelengkapan unsur dan kualitas penerbit (30%)	5,7	6	5,85
Total = (100%)			18,65
Nilai untuk Pengusul : (40% x 18,65) / 2 = 3,73			

Semarang, 7 Juli 2022

Reviewer 1

Prof. Dr. Drs. Muhammad Nur, DEA
NIP. 195711261990011001
Bidang ilmu/Unit kerja : Fisika/Fakultas Sains dan Matematika

Reviewer 2

Prof. Dr. Kusworo Adi, S.Si., M.T.
NIP. 197203171998021001
Bidang ilmu/Unit kerja : Fisika/Fakultas Sains dan Matematika

LEMBAR
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Kategori Publikasi Jurnal Ilmiah (beri ✓pada kategori yang tepat)	:	[√]	Jurnal Ilmiah Internasional/~~Internasional Bereputasi~~
		[ ]	Jurnal Ilmiah Nasional Terakreditasi
		[ ]	Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional [√]	Nasional Terakreditasi [ ]	Nasional Tidak Terakreditasi [ ]	
a. Kelengkapan unsur isi jurnal (10%)	2			1,7
b. Ruang lingkup dan kedalaman pembahasan (30%)	6			5,7
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	6			5,7
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	6			5,7
Total = (100%)	**20**			**18,8**
Nilai Pengusul = 40% x 1/2 x 18,8 = 3,76				

Catatan Penilaian artikel oleh Reviewer :

1. **Kelengkapan unsur isi jurnal:**
   Pendahuluan cukup baik dan menggambarkan pentingnya penelitian. Artikel telah ditulis sesuai dengan International Journal of Scientific Research in Science and Technology (IJSRST)
2. **Ruang lingkup dan kedalaman pembahasan:**
   Ruang lingkup bahasan sudah luas, hasil dan pembahasan sudah didiskusikan. Diskusi belum melibatkan hasil penelitian dari peneliti lain.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:**
   Referensi sudah mutakhir. Metoda dapat dipahami oleh mereka yang ahli dibidang ini dan bisa direflikasi. Diskusi belum melibatkan hasil penelitian dari peneliti lain. Artikel baru menunjukkan metoda yang digunakan tanpa membandingkan hasilnya dengan peneliian sebelumnya
4. **Kelengkapan unsur dan kualitas terbitan:**

Penerbitan sudah baik, *sesuai dengan* International Journal of Scientific Research in Science and Technology (IJSRST) sebagai journal Internasional.

Semarang, 25 Juni 2022
Reviewer 1

Prof. Dr. Drs. Muhammad Nur, DEA
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Unit Kerja : Fisika
Bidang Ilmu: Fakultas Sains dan Matematika

2LEMBAR
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Kategori Publikasi Jurnal Ilmiah (beri ✓pada kategori yang tepat) :

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	Jurnal Ilmiah Nasional Terakreditasi
	Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional √	Nasional Terakreditasi ☐	Nasional Tidak Terakreditasi ☐	
a. Kelengkapan unsur isi jurnal (10%)	2			2
b. Ruang lingkup dan kedalaman pembahasan (30%)	6			5,5
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	6			5
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	6			6
Total = (100%)	**20**			**18,5**
Nilai Pengusul = 40% x 1/2 x 18,5 = 3,7				

Catatan Penilaian artikel oleh Reviewer :

1. **<u>Kesesuaian dan kelengkapan unsur isi jurnal:</u>**
   Isi jurnal sesuai dan lengkap dengan komponen-komponennya: abstrak, pendahuluan, prosedur eksperimen, hasil dan pembahasan, lalu kesimpulan dan daftar pustaka, semuanya sesuai dan tepat.
2. **<u>Ruang lingkup dan kedalaman pembahasan:</u>**
   Paper ini membahas tentang sintesis lapisan tipis ganda ZnO/ZnO:Fe yang ditambahkan senyawa Fe dengan variasi komposisi dengan metode sol - gel untuk mendegradasi tetrasiklin. Absorbansi terbesar ZnO/ZnO:Fe dpada konsentrasi 2% (0,402) dan terkecil pada konsentrasi 8% (0,272). Efektivitas degradasi terbesar 69,744% dan dergradasi terkecil sebesar 55,283%.
3. **<u>Kecukupan dan kemutakhiran data/informasi dan metodologi:</u>**
   Data-data yang digunakan cukup baik didukung metodologi yang cukup baik dengan referensi sampai dengan 5 tahun sebanyak 11.
4. **<u>Kelengkapan unsur dan kualitas terbitan:</u>**
   Karya ini diterbitkan dalam jurnal internasional oleh TechnoScience Academy dengan unsur-unsur yang lengkap serta berkualitas baik dengan indexing jurnal Copernicus.

Semarang, 7 Juli 2022
Reviewer 2

Prof. Dr. Kusworo Adi, S.Si., M.T.
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Smart System for Waste Management Using GPRS

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ABSTRACT

Internet of Things (IOT) is a smart and makes technology to incorporate in each and every thing and even in small things too. It links smart objects to the internet. Life is made simpler and more productive through IOT.

In the existing system, garbage bins are manually cleaned that means an authorized person need to check whether the bins are filled or not daily so it needs human effort to check every time. Monitoring and cleaning of wastes in time is one of the primary issues in the cities. In the proposed system we made a smart system to automated this process. Here we are using ultrasonic sensors which are fixed over the dustbins. These sensors continuously calculates the level of the dustbin that is filled. This live data is sent to ARM7 processor. ARM7 will process the data and send to the cloud server through GPRS. The user can access the data through an URL provided to them and plan according to that which bin needs to be cleaned and automatically certain action will be taken to clean the bins.

Index Terms – GPRS, Ultrasonic sensor, LCD, IOT.

I. INTRODUCTION

Now a days the concept of cleanliness becomes very crucial in these times. Dispose of waste at public places and incorrect way of disposing wastes may cause serious effects like health issues and also can cause different types of pollution that may severely affect the environment thus by creating health issues which can't be treated. In countries like India where population increases rapidly we need very efficient waste management system. Disposal of waste increases as population increases and thus it can severely affect the health of lot of people

Waste means any material either solid, liquid, semisolid, containing gas or other forms resulting from industrial, commercial, mining or agricultural operations or from community and household activities that is devoid of usage and discarded.So to solve this issue our PM Narendra modi proposed swatch bharath. So we are contributing our technological knowledge to reduce the effects that is caused by incorrect way of disposal of waste.

Here IOT technology plays an important role in this project where we are uploading the filled status of the bin continuously to server through GPRS. Here we

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Development of Helmholtz Equation of State for Thermodynamic Properties of R-1233zd(E)

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ABSTRACT

The application of refrigerants from the Hydro Chloro Fluoro Olefins (HCFO) group, namely R-1233zd(E), in addition to the Hydro Fluoro Olefins (HFO), is a solution to environmental problems. A thermodynamic equation of state for R-1233zd(E), which can predict all thermodynamic properties over a wide-range fluid phase, is proposed in a function of the Helmholtz free energy. Three ancillary equations support the development and application. A genetic algorithm method combined with a weighted least squares regression was applied. The Helmholtz equation of state has an average absolute deviation of 0.12% for the liquid density, 2.0% for the vapor density, 1.4% for the vapor pressure, 0.16% for the saturated liquid density, 4.1% for the saturated vapor density, 3.6% for the isobaric specific heat, and 0.15% for the speed of sound in the liquid phase, and 0.18% for the speed of sound in the vapor phase. The deviation of the isochoric and saturated specific heats was not evaluated yet due to unavailable experimental data. The reasonable behavior of its extrapolation and ideal characteristic curves confirm its reliability. The Helmholtz equation of state can predict thermodynamic properties from the triple point to 1000 K and 100 MPa.

Keywords: Helmholtz Equation of State, Trans-1-Chloro-3,3,3-Trifluoropropene, Thermodynamic Properties

I. INTRODUCTION

The development of air conditioning and refrigeration technology consists of equipment, refrigerants, and a thermodynamic cycle. The development is necessary for improving the quality of working fluid and system performance. The quality of the refrigerant affects the system's performance and its environmental impact. Air conditioner manufacturers are currently very concerned about refrigerants to produce environmentally friendly technologies. Despite its enormous benefits, refrigerants harm their use. A negative impact causes global warming and ozone layer depletion called an environmental issue. The emergence of these two problems is a motivating factor for the search for alternative refrigerants. The use of refrigerants in air conditioning and refrigeration systems is considered dangerous for the continuity of the ozone production cycle in the atmosphere.