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

Judul (Artikel)	:	Analysis of mathematical model of HIV-1 infection of CD4+ T cells with CTL response and antiretroviral treatment. Penulis : Sutimin, **Sunarsih**, Heru Thahjana			
Jumlah Penulis	:	3 orang			
Status Pengusul	:	~~Penulis pertama~~/penulis kedua/~~penulis korespondensi~~			
Identitas Jurnal Ilmiah	:	a.	Nama Prosiding	:	Journal of Physics: Conference Series. Journal of Physics: Conf. Series
		b.	Nomor ISSN	:	-
		c.	Volume,nomor, bulan tahun	:	1217 (2019) 012072
		d.	Penerbit	:	IOP Publishing Ltd.
		e.	DOI artikel (jika ada)	:	DOI:10.1088/1742-6596/1217/1/012074
		f.	Alamat web prosiding	:	

URL JURNAL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074

URL ARTIKEL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074/pdf

Kategori Publikasi Prosiding (beri ✓pada kategori yang tepat) :
- ☑ Procedia/Prosiding Internasional Terindeks
- ☐ Prosiding Internasional
- ☐ Prosiding Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi prosiding (10%)	2,6	3	2,8
b. Ruang lingkup dan kedalaman pembahasan (30%)	8,3	9	8,65
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	8,0	8,5	8,25
d. Kelengkapan unsur dan kualitas penerbit (30%)	8,4	8,5	8,45
Total = (100%)	27.3	29	28,15
Nilai Pengusul = 40%x1/2x	5,46	5,8	5,63

Semarang, 5 – 11 – 2019

Reviewer II

Prof. Dr. Heri Sutanto, SSi., MSi
NIP. 197502151998021001
Unit kerja : Departemen Fisika, FSM UNDIP

Reviewer I

Prof. Dr. Widowati, MSi
NIP. 196902141994032002
Unit kerja : Departemen Matematika , FSM UNDIP

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

Judul (Artikel)	:	Analysis of mathematical model of HIV-1 infection of CD4+ T cells with CTL response and antiretroviral treatment. Penulis : Sutimin, **Sunarsih**, Heru Thahjana			
Jumlah Penulis	:	3 orang			
Status Pengusul	:	~~Penulis pertama~~/penulis kedua/~~penulis korespondensi~~			
Identitas Jurnal Ilmiah	:	a.	Nama Prosiding	:	Journal of Physics: Conference Series. Journal of Physics: Conf. Series
		b.	Nomor ISSN	:	-
		c.	Volume,nomor, bulan tahun	:	1217 (2019) 012072
		d.	Penerbit	:	IOP Publishing Ltd.
		e.	DOI artikel (jika ada)	:	DOI:10.1088/1742-6596/1217/1/ 012074
		f.	Alamat web prosiding	:	
URL JURNAL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074 URL ARTIKEL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074/pdf					

Kategori Publikasi Prosiding (beri ✓pada kategori yang tepat) :
☑ Procedia/Prosiding Internasional Terindeks
☐ Prosiding Internasional
☐ Prosiding Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Procedia ☑	Prosiding Internasional ☐	Prosiding Nasional ☐	
a. Kelengkapan unsur isi prosiding (10%)	3,00			2,6
b. Ruang lingkup dan kedalaman pembahasan (30%)	9,00			8,3
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9,00			8,0
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	9,00			8,4
Total = (100%)	30,00			27.3
Nilai Pengusul = 40%x1/2x27,3 =5,46				

Catatan Penilaian artikel oleh Reviewer :

a. Kelengkapan unsur isi prosiding cukup baik mulai dari pendahuluan, pembahasan hingga kesimpulan dan daftar pustaka.
b. Ruang lingkup berkaitan dengan modifikasi pemodelan infeksi HIV-1 host. Kedalaman pembahasan tentang analisis kestabilan baik.
c. Data yang digunakan adalah data sekunder yang didapat dari referensi. Dari 23 referensi yang dipakai 43,5% (10 referensi) sudah kedaluwarsa (lebih dai 10 tahun terakhir) dan terdapat 2 referensi tidak ada tahunnya.
d. Kelengkapan unsur dan kualitas terbitan cukup baik.

Semarang, 5 - 11 - 2019
Reviewer 1

Prof. Dr. Widowati, MSi
NIP. 196902141994032002
Unit kerja : Departemen Matematika, FSM UNDIP

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

Judul (Artikel)	:	Analysis of mathematical model of HIV-1 infection of CD4+ T cells with CTL response and antiretroviral treatment. Penulis : Sutimin, **Sunarsih**, Heru Thahjana			
Jumlah Penulis	:	3 orang			
Status Pengusul	:	~~Penulis pertama~~/penulis kedua/~~penulis korespondensi~~			
Identitas Jurnal Ilmiah	:	a.	Nama Prosiding	:	Journal of Physics: Conference Series. Journal of Physics: Conf. Series
		b.	Nomor ISSN	:	-
		c.	Volume,nomor, bulan tahun	:	1217 (2019) 012072
		d.	Penerbit	:	IOP Publishing Ltd.
		e.	DOI artikel (jika ada)	:	DOI:10.1088/1742-6596/1217/1/ 012074
		f.	Alamat web prosiding	:	
URL JURNAL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074 URL ARTIKEL : https://iopscience.iop.org/article/10.1088/1742-6596/1217/1/012074/pdf					

Kategori Publikasi Prosiding : ☑ Procedia/Prosiding Internasional Terindeks
(beri ✓pada kategori yang tepat) ☐ Prosiding Internasional
☐ Prosiding Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Procedia ☑	Prosiding Internasional ☐	Prosiding Nasional ☐	
e. Kelengkapan unsur isi prosiding (10%)	3,00			3
f. Ruang lingkup dan kedalaman pembahasan (30%)	9,00			9
g. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9,00			8,5
h. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	9,00			8,5
Total = (100%)	30,00			29
Nilai Pengusul = 40%x1/2x29=5,8				

Catatan Penilaian artikel oleh Reviewer :

a. Artikel telah ditulis sesuai panduan IOP Proceeding dan lengkap dari abstrak hingga kesimpulan. .
b. Data telah dibahas dengan baik sesuai dengan hasil analisa matematika.
c. Data yang digunakan telah menggambarkan hasil penelitian tentang model matematika, Ipteks, Haki juga memenuhi kaidah ilmiah.
d. Referensi cukup dalam jumlah yaitu 23 referensi dengan katagori terkini 40% dan sisnya kurang up to date.

Semarang, 2 – 11 – 2019
Reviewer 2

Prof. Dr. Heri Sutanto, SSi., MSi.
NIP. 197502151998021001
Unit kerja : Departemen Fisika, FSM UNDIP

Document details

‹ Back to results | ‹ Previous 9 of 34 Next ›

Export Download Print E-mail Save to PDF Add to List More... ›

View at Publisher

Journal of Physics: Conference Series
Volume 1217, Issue 1, 17 June 2019, Article number 12074
8th International Seminar on New Paradigm and Innovation on Natural Sciences and Its Application, ISNPINSA 2018; Semarang, Central Java; Indonesia; 26 September 2018 through ; Code 148936

Analysis of mathematical model of HIV-1 infection of CD4+ T cells with CTL response and antiretroviral treatment (Conference Paper) (Open Access)

Sutimin, Sunarsih, Thahjana, H.

Department of Mathematics, Faculty of Science and Mathematics, Diponegoro University, Jl. Prof. Soedharto, SH, Tembalang, Semarang, 50275, Indonesia

Abstract

View references (23)

A mathematical model is developed to capture the spread of HIV-1 infection within host cells caused by the contact of cell to cell and CTL response. In this paper, we propose a mathematical model of HIV-1 infection in CD4+T cells taking into account viral transmission from cell to cell and CTL response. The HIV transmission from cell to cell is one of the main factor in the spread of HIV infection and CTL response determines viral set point. We analyse the model to investigate the existence and stability of the equilibria. We analyse the local stability of disease free equilibrium by linearization, while the global stability of endemic equilibrium of the system by constructing Lyapunov function. Numerical simulations are presented to find the effectiveness of antiretroviral treatment in different scenarios and to the implication of CTL response in controlling the progression of HIV-1 infection. © Published under licence by IOP Publishing Ltd.

SciVal Topic Prominence

Topic: Infection | Virus | CTL immune

Prominence percentile: 93.565

Indexed keywords

Engineering controlled terms: Cytology, Epidemiology, Lyapunov functions

Engineering uncontrolled terms: Antiretroviral treatment, Disease-free equilibrium, Endemic equilibrium, Existence and stability, Global stability, HIV transmission, HIV-1 infections, Local stability

Engineering main heading: T-cells

ISSN: 17426588
Source Type: Conference Proceeding
Original language: English
DOI: 10.1088/1742-6596/1217/1/012074
Document Type: Conference Paper
Volume Editors: Khumaeni A.,Putro S.P.,Rahadian R.
Publisher: Institute of Physics Publishing

Source details

Journal of Physics: Conference Series

Scopus coverage years: from 2005 to Present

Publisher: Institute of Physics Publishing

ISSN: 1742-6588 E-ISSN: 1742-6596

Subject area: Physics and Astronomy: General Physics and Astronomy

View all documents > Set document alert Save to source list Journal Homepage

CiteScore 2018
0.51

SJR 2018
0.221

SNIP 2018
0.454

CiteScore CiteScore rank & trend CiteScore presets Scopus content coverage

CiteScore 2018

Calculated using data from 30 April, 2019

$$0.51 = \frac{\text{Citation Count 2018}}{\text{Documents 2015 - 2017*}} = \frac{\text{11,243 Citations >}}{\text{21,896 Documents >}}$$

*CiteScore includes all available document types View CiteScore methodology > CiteScore FAQ >

CiteScore rank

Category	Rank	Percentile
Physics and Astronomy — General Physics and Astronomy	#167/216	21st

View CiteScore trends >

Add CiteScore to your site

CiteScoreTracker 2019

Last updated on *09 April, 2020*
Updated monthly

$$0.59 = \frac{\text{Citation Count 2019}}{\text{Documents 2016 - 2018}} = \frac{\text{18,254 Citations to date >}}{\text{31,135 Documents to date>}}$$

Metrics displaying this icon are compiled according to Snowball Metrics ↗ , a collaboration between industry and academia.

LIST OF REFEREES AND EDITORS

1. Prof. Dr. Widowati
2. Prof. Mustafid, Ph.D.
3. Prof. Dr. Wahyu Setia Budi
4. Prof. Dr. Heri Sutanto
5. Sapto P Putro, Ph.D.
6. Dr. Jafron W. Hidayat
7. Dr. Munifatul Izzati
8. Dr. Budi Warsito
9. Dr. Eng. Ali Khumaeni
10. Dr. Di Asih I Maruddani
11. Dr. Muhammad Nur, DEA
12. Dr. Kusworo Adi
13. Dr. Endang Kusdiyantini, DEA
14. Rully Rahadian, Ph.D.
15. Anto Budiharjo, Ph.D.
16. Dr. Tri Retnaningsih Soeprobowati
17. Ismiyarto, Ph.D.
18. Dr. Retno Ariadi Lusiana
19. Dr. Tarno
20. Dr. Eng. Adi Wibowo
21. Dr. Sutimin
22. Alan Prahutama, M.Si
23. Dr. Rukun Santoso
24. Dr. Redemtus Heru Tjahyana
25. Dinar Mutiara Kusumo Nugraheni, Ph.D.
26. Dr. Titik Widiharih
27. Dr. Hermin Pancasakti
28. Dr. Agung janika Sitasiwi
29. Dr. Erma Prihastanti
30. Heri Sugito, M.Si.
31. Fajar Ariyanto, M.Si.
32. Dr. Udi Harmoko
33. Dr. Rahmat Gernowo

LIST OF SPEAKER

Keynote Speaker:

Prof. Elmer S. Estacio, Ph.D.	National Institute of Phyics, University of the Philippines, Manila, Philippines
Prof. Dr. Kazuyoshi Kurihara	University of Fukui, Japan
Prof. Dr. Kaemwich Jantama, Ph.D.	Suranaree University of Technology, Thailand
Prof. Dr. Hendrik Heijnis	Australian Nuclear Science and Technology, Australia
Prof. Dr. I Gede Wenten	Institut Teknologi Bandung, Indonesia

Invited Speaker:

Dr. Retno Kusumaningrum	Diponegoro University, Semarang, Indonesia
Dr. Sutimin	Diponegoro University, Semarang, Indonesia
Prof. Dr. Heri Sutanto	Diponegoro University, Semarang, Indonesia
Vincensius Gunawan, Ph.D.	Diponegoro University, Semarang, Indonesia
Rully Rahadian, Ph.D.	Diponegoro University, Semarang, Indonesia
Dr.rer.nat. Anto Budiharjo	Diponegoro University, Semarang, Indonesia
Pratama Jujur Wibawa, Ph.D.	Diponegoro University, Semarang, Indonesia
Dr. Nor Basid Prasetya	Diponegoro University, Semarang, Indonesia
Dr. Rukun Santoso	Diponegoro University, Semarang, Indonesia

LIST OF COMMITTEE

Steering Committee:
Prof. Dr. Muhammad Zainuri, *Diponegoro University, Indonesia*
Prof. Dr. Widowati, *Diponegoro University, Indonesia*
Prof. Dr. Heru Susanto, *Diponegoro University, Indonesia*
Dr. Muhammad Nur, *Diponegoro University, Indonesia*
Prof. Dr. Wahyu Setia Budi, *Diponegoro University, Indonesia*
Prof. Dr. Mustafid, *Diponegoro University, Indonesia*
Sapto Purnomo P, Ph.D, *Diponegoro University, Indonesia*

Organising Committee:
Dr.Eng. Ali Khumaeni, S.Si. M.E. (Chairman)
Rully Rahadian, SSi, MSi, PhD (Vice-Chairman I)
Dr. Di Asih I Maruddani, S.Si, M.Si (Vice-Chairman II)
Dr. R. Heru Tjahjana (Member)
Dr. Tarno, M.Si (Member)
Dr. Susilo Haryanto (Member)
Yayuk Astuti, Ph.D (Member)
Adi Darmawan, Ph.D (Member)
Agus Setyo Utomo, M.M (Member)
Dewi Kusrini, M.Si. (Member)
Dr. Kusworo Adi, M.T (Member)
Dr. Dwi Hadiyanti, M.Si (Member)
Dr. Endah D Hastuti, M.Si (Member)
Farikhin, Ph.D (Member)
Ragil Saputro, M.T (Member)
Dra. Dwi Ispriyanti, M.Si (Member)
Heri Sugito, M.Sc (Member)
Alan Prahutama, M.Si (Member)
Fajar Arianto, M.Si (Member)
Bagus Rahmawan Trianto, S.Kom (Member)
Alik Maulidiyah, S.Si (Member)

Table of contents

Volume 1217

2019

Previous issue Next issue

The 8th International Seminar on New Paradigm and Innovation on Natural Science and Its Application 26 September 2018, Central Java, Indonesia

Accepted papers received: 27 March 2019
Published online: 18 June 2019

View all abstracts

Preface

OPEN ACCESS 011001
The 8th International Seminar on New Paradigm and Innovation on Natural Science and Its Application
+ View abstract View article PDF

OPEN ACCESS 011002
Peer review statement
+ View abstract View article PDF

Papers

OPEN ACCESS 012001
2D electrical resistivity imaging based on backpropagation artificial neural network
A Setyawan, M S Fikri, J E Suseno and Najib
+ View abstract View article PDF

The characteristics of the Moore-Penrose inverse using the Drazin inverse

F A Mansuri, T Udjiani SRRM, Sutimin, Suryoto and U Tarmizi

+ View abstract View article PDF

OPEN ACCESS 012069

Applied Drazin Inverse to Moore-Penrose inverse in rings with involution

U Tarmizi, T Udjiani SRRM, S Hariyanto, Harjito and F A Mansuri

+ View abstract View article PDF

OPEN ACCESS 012070

Subspace of $M_n(\mathbb{Z}_2)$

Yanita and A Adrianda

+ View abstract View article PDF

OPEN ACCESS 012071

Tuberculosis transmission with relapse in Indonesia: susceptible vaccinated infected recovered model

P Widyaningsih, A A Nugroho, D R S Saputro and Sutanto

+ View abstract View article PDF

OPEN ACCESS 012072

Linear Programming with Fuzzy Variable Method for Solving Wastewater Treatment Plant (WWTP) Problem

T R Pratiwi, Sunarsih and B Surarso

+ View abstract View article PDF

OPEN ACCESS 012073

A combination of Rivest Shamir Adlemann (RSA) and Affine Cipher method on improvement of the effectiveness and security of text message

M Jannah, B Surarso and Sutimin

+ View abstract View article PDF

OPEN ACCESS 012074

Analysis of mathematical model of HIV-1 infection of $CD4^+$ T cells with CTL response and antiretroviral treatment

Sutimin, Sunarsih and Heru Thahjana

+ View abstract View article PDF

OPEN ACCESS 012075

IOP Conf. Series: Journal of Physics: Conf. Series **1217** (2019) 012003 doi:10.1088/1742-6596/1217/1/012003

Growth and fabrication of 850 nm AlGaAs/GaAs vertical cavity surface emitting laser structure

N I Cabello*, P M Tingzon, H A Husay, J D Vasquez, R Jagus, K L Patrocenio, K C Gonzales, G A Catindig, E A Prieto, A Somintac, A Salvador and E Estacio

National Institute of Physics, College of Science, University of the Philippines
NIP Bldg, National Science Complex, Diliman, Quezon City 1101, Philippines
E-mail: ncabello@nip.upd.edu.ph

Abstract. In this work, we demonstrate the NIP's all in-house development of a vertical cavity surface emitting laser structure. The VCSEL structure grown via MBE consists of an AlAs/AlGaAs distributed Bragg reflector and an AlGaAs/GaAs quantum well designed to issue at the 850 nm region. Reflectance spectroscopy showed that the stop band is centered around the designed wavelength. The electroluminescence spectra displayed that the maximum light emission corresponded to its design. This is a crucial step in the NIP's development of semiconductor lasers, leading towards future high-speed and highly-tunable VCSEL devices.

1. Introduction

Semiconductor lasers have been at the forefront of high-speed interconnects, thanks to the development of lasers capable of operating at gigahertz speeds [1]. Expansion to other applications such as proximity sensing [2] and light detection and ranging (LIDAR) [3] have driven further research on this field. For high-speed devices, switching speeds at the gigahertz range are desired [1], while high tuning speeds and increased tunability are sought for wavelength-tunable devices [4]. With its molecular beam epitaxy (MBE) and device fabrication facilities, the National Institute of Physics (NIP) has recently renewed its research thrust in this field, most notably on vertical cavity surface emitting lasers (VCSELs).

The VCSEL is a type of semiconductor laser with light emission orthogonal to the wafer plane. Its main advantages over other conventional semiconductor lasers such as edge-emitting lasers are the ease of coupling to optical fibers, direct wafer scale probing and low threshold operation [5]. A standard VCSEL design is composed of an optical cavity with an active region in the center, which is usually a quantum well (QW). The optical cavity is then sandwiched between two distributed Bragg reflectors (DBRs), which are highly reflecting mirrors composed of alternating high and low refractive index medium materials. The stop band of the DBR, which is the wavelength region with the highest reflectance, should coincide with the QW emission wavelength. Oxidation apertures, usually situated near the active region, are also employed for optical and current confinement [6].

In this paper, we report on the all in-house development of an AlGaAs/GaAs-based DBR VCSEL structure at the chip level. The whole process entails the whole production processes: the growth of the layers, device fabrication, and characterization of both as-grown and device-fabricated layers. Oxidation was also performed to explore the possibility of current and optical confinement effects [6].

2. Experimental Details

IOP Conf. Series: Journal of Physics: Conf. Series **1217** (2019) 012022 doi:10.1088/1742-6596/1217/1/012022

An investigation of a CT noise reduction using a modified of wiener filtering-edge detection

C Anam[1,*], T Fujibuchi[2], T Toyoda[2], N Sato[2], F Haryanto[3], R Widita[3], I Arif[3] and G Dougherty[4]

[1] Department of Physics, Faculty of Mathematics and Natural Sciences, Diponegoro University, Jl. Prof. Soedarto SH, Tembalang, Semarang 50275, Indonesia.
[2] Department of Health Sciences, Faculty of Medical Sciences, Kyushu University, 3-1-1 Maidashi, Higashi-ku, Fukuoka 812-8582, Japan.
[3] Department of Physics, Faculty of Mathematics and Natural Sciences, Bandung Institute of Technology, Ganesha 10, Bandung 40132, Indonesia.
[4] Applied Physics and Medical Imaging, California State University Channel Islands, Camarillo, CA 93012, USA.
E-mail: anam@fisika.undip.ac.id

Abstract. The aims of this study were to investigate the noise reduction in a CT image using a modified Wiener filtering-edge detection method. We modified the noise reduction algorithm of a combination of the Wiener filter and edge detection by addition of a dilation stage after edge detection. We then evaluated kernel size of the Wiener filter, threshold values in the edge detection, and size of structuring elements in the dilation process. Images of adult anthropomorphic and self-built wire phantoms were acquired by the new 4-row multislice CT Toshiba Alexion™. The images of the anthropomorphic phantom were used for a visual evaluation, while the images of the wire-phantom were used to obtain the spatial resolution and noise of the images. A Wiener filter-edge detection filter coupled with dilation, potentially reduced more CT noise. We found that the spatial resolution and noise of the filtered images were influenced by the size of the Wiener filter kernel, threshold of edge detection, and size of structuring element.

1. Introduction

Several approaches have been proposed to reduce CT dose without compromising image quality. One method has been proposed is the tube current modulation (TCM) [1, 2]. In TCM, tube currents decrease and increase proportionally with the decreasing and increasing attenuation of body parts [3]. Tube current modulation could be implemented by the rotation of the x-ray tube (angle-modulation) or by modulation in the direction of the longitudinal axis (Z-modulation), or a combination of both [4]. Another method proposed for reducing the dose is to utilize iterative reconstruction (IR) [5], instead of filtered back-projection (FBP). In fact, the IR technique is not only iterative during reconstruction but also iteratively processes in either the sinogram [6] or image spaces [7], in accordance with the specific physical modeling or statistical approaches. There are several IR software products used by major CT vendors including ASIR, AIDR, VEO, IRIS, SAFIRE, and iDose [8]. However, the details of the algorithms are very sparse, and they are still considered proprietary algorithms [5].

Another method that can be used for CT dose reduction is the use of noise reduction in the image space [8]. A noisy image due to acquisition with a small tube current-time (mAs) parameter can have

THE MINISTRY OF RESEARCH, TECHNOLOGY, AND HIGHER EDUCATION
THE REPUBLIC OF INDONESIA

DIPONEGORO UNIVERSITY
FACULTY OF SCIENCE AND MATHEMATICS

ISNPINSA

DECREE OF DEAN NUMBER : 1778/UN7.5.8/HK/2018

Certificate

THIS IS TO CERTIFY THAT

Sutimin

as

PRESENTER

In the 8th International Seminar on New Paradigm and Innovation on Natural Science and Its Application (8th ISNPINSA)

Held on 26 September 2018 at Gets Hotel, Semarang, Indonesia

with paper entitled as follows:

Analysis of Mathematical Model of HIV-1 Infection of CD4+ T Cells with CTL Response and Antiretroviral

DEAN OF FSM UNDIP

Prof. Dr. Widowati, S.Si, M.Si
NIP. 196902141994032002

8th ISNPINSA COMMITTEE CHAIRMAN

Dr. Eng. Ali Khumaeni, M.E
NIP. 198308072014041001