The 3rd Padjadjaran International Physics Symposium

Holiday Inn, Bandung

14-15 November 2017

***The Role of Physics
in Sustainable Development***

**Department of Physics
Faculty of Mathematics and Natural Sciences
Universitas Padjadjaran**

BOOK OF ABSTRACTS

[EP] Earth Physics

CODE	TITLE	AUTHORS	PAGE
EP-01	<i>Analysis of Land Subsidence in Bandar Lampung City based on InSAR</i>	Ahmad Zaenudin, I Gede Boy Darmawan, Armijon, and Suhayat Minardi	113
EP-02	<i>Numerical Analysis of Temperature Interpolation Methods Compared with 2D Diffusion Simulation</i>	Bambang Wijatmoko, Rian Karya, and Yudi Rosandi	114
EP-03	<i>Development LVG GLS Geoelectrical Instrument for Monitoring Near Surface Geohazard</i>	Prihadi Sumintadireja, Ihsan Imaduddin, Wahyu Srigutomo, Enjang Jaenal Mustopa, Diky Irawan, Ihsanuddin A. Lubis	115
EP-04	<i>Quantitative X-Ray Mineralogy of Iron Ore From South Coast Of West Java, Indonesia</i>	Setianto, Budy Santosa, Darmawan Hidayat and Camellia Panatarani	116
EP-05	<i>Subsurface Structure of Tangkuban Parahu Area Derived from CSAMT and Gravity Investigation</i>	Enjang Jaenal Mustopa, Doddy Sutarno, Nurhasan, Atari Rizki Naulia, Mehindra Luluk Baskoro, and Niken Sekar Asih	117
EP-06	<i>Study Hydrology, Soil and Rock Structure Based on Resistivity Distributions using Electric and Electromagnetic Methods</i>	Asep Harja, Dini Fitriani ,Bambang Wijatmoko, Yudi Rosandi	118
EP-07	<i>Mapping and Analysis of the Physical Properties of Rocks for Building Materials in the Sunda Strait Region</i>	Nandi Haerudin, Ahmad Zaenudin, Yoga Aribowo, I Gede Boy Darmawan	119
EP-08	<i>Applied Electric and Electromagnetic Methods in Geophysics for Soil Characteristics Analysis Based on Distributions Conductivity</i>	Asep Harja, Dini Fitriani ,Bambang Wijatmoko	120
EP-09	<i>A Preliminary Modeling of Water Supply Sustainability in Agricultural Area</i>	Imran Hilman Mohammad, Eddy Supriyana	121
EP-10	<i>Fractal Lineament of Surface and Subsurface Based on Gravity and Satelite Imagery Data to Delineation of Hazardous Area of Landslide and Earthquake</i>	Andi Agus Nur, Gumilar Utamas Nugraha	122

Development LVG GLS Geoelectrical Instrument for Monitoring Near Surface Geohazard

Prihadi Sumintadireja¹, Ihsan Imaduddin^{2,4}, Wahyu Srigutomo², Enjang Jaenal Mustopa², Diky Irawan³, Ihsanuddin A. Lubis³

¹*Geology FITB, Institut Teknologi Bandung, Jl. Ganesa 10 Bandung 40132*

²*Physics FMIPA ITB, Institut Teknologi Bandung, Jl. Ganesa 10 Bandung 40132*

³*Laboratory of Application and Geosciences Modeling (LVG, Institut Teknologi Bandung)*

⁴*Physics FMIPA UNPAD, Universitas Padjadjaran, Jl. Raya Bandung-Sumedang KM21 45363*

prihadi@gc.itb.ac.id,

ihsanimaduddin@gmail.com

Abstract. This paper demonstrated a new geoelectrical equipment of LVG GLS multi channel , which as part of Laboratory of Application and Geosciences Modeling research, which funded by Institut Teknologi Bandung. Initially, the LVG GLS equipment is designed for delineating geothermal area by mise a la masse configuration. Furthermore, the application is plan to modify for geohazard study, since many landslide occurrence without clear explanation about the involving process due to lack data measurement. The ability of equipment is able to measure resistivity of subsurface condition in real time and continuous. Therefore, spatial and temporal data for monitoring vulnerable landslide area, which identified by geological mapping can be visualized to mitigate the geohazard area more precisely. The simultaneous 80 channel electrode measurement can reduced inhomogeneity of spontaneous potential value, which change by time interval.

Keywords: Geoelectrical LVG GLS, mise a la masse, electrode, continuous measurement

PIPS 2017