## VNU JOURNAL OF SCIENCE

Mathematics – Physics Vol. 37, No. 3, 2021

## **CONTENTS**

## **Original Articles**

1.	Nguyen Hoang Nam, Nguyen Thi Bich Ngoc, Truong Thanh Trung, Tran Thi Hong, Phi Thi Huong, Nguyen Hoang Luong, CTAB-assisted Synthesis and Characterization of FePd Nanoparticles	1
2.	<b>Do Ngoc Son, Nguyen Thi Xuan Huynh, Nam Thoai, Pham Trung Kien,</b> Highly Selective Separation of CO <sub>2</sub> and H <sub>2</sub> by MIL-88A Metal Organic Framework	9
3.	<b>Tran Manh Trung, Nguyen Tu, Nguyen Van Quang, Do Quang Trung, Pham Thanh Huy,</b> Photoluminescent Properties of Red-emitting AlPO <sub>4</sub> :Cr <sup>3+</sup> Phosphor for Plant Growth LEDs	22
4.	Nguyen Xuan Sang, Nguyen Hoang Mai, Pham Thi Thuy, Nguyen Tri Tuan, Pham Van Tuan, Hoang Ba Cuong, Facile Hydrothermal Method for Fabrication of Seedless ZnO Nanorod/GO Composite on PCB	32
5.	Pham Van Tuan, Le Trung Hieu, Vu Thi Tan, Hoang Ba Tuong, Tran Thi Quynh Hoa, Nguyen Xuan Sang, Tran Ngoc Khiem, Dependence of Hydrothermal Time on Structural Characteristics and Photocatalytic Properties of SnO <sub>2</sub> Nanoparticles	42
6.	Nguyen Thi Dung, Tran Viet Phu, Donny Hartanto, Luu Thi Lan, Mai Huu Thuan, Pham Nhu Viet Ha, Steady State Calculations of the PWR MOX/UO <sub>2</sub> Core with the Monte Carlo Code MCNP6	51
7.	Dang Trung Si, Nguyen Thanh Phong, Nguyen Hua Thanh Nha, Fermions, Gauge Bosons and Higgs Masses in the 3-3-1-1 Model with Charged Lepton	61
8.	<b>Nguyen Thi Quynh Chi, Nguyen Duc Minh, Vu Ngoc Hung,</b> Impact of Geometry Dimension on Quality Factor and Mass-Sensitivity of PZT Thin Film-based Microcantilevers	74
9.	Doan Thi Tu Uyen, Pham Le Quynh Nhu Phuong, Mai Ngoc Xuan Dat, Pham Kim Ngoc, The Resistive Switching Characteristics and Electrical Conduction Mechanisms of Memory Devices Based on Nanocomposite	82
10.	<b>Nguyen Van Dung, Le Vinh Truong,</b> Breakdown Characteristics of Composite Insulation for High Temperature Superconducting Cable	93
11.	<b>Le Quoc Dat, Duong Thanh Tung, Nguyen Duy Hung,</b> Synthesis and Waterproofness Improvement of K <sub>3</sub> AlF <sub>6</sub> :Mn <sup>4+</sup> Phosphor for Warm White Lightemitting Diodes	101
12.	<b>Vu Dinh Quang,</b> Dynamic Analysis of Eccentrically Stiffened Sandwich Thick Plates with Auxetic Honeycomb Core and GPL-RC Face Layers under Blast Loading	109