15th Siam Physics Congress

4 – 5 June 2020 | Online Conference

Poster Session

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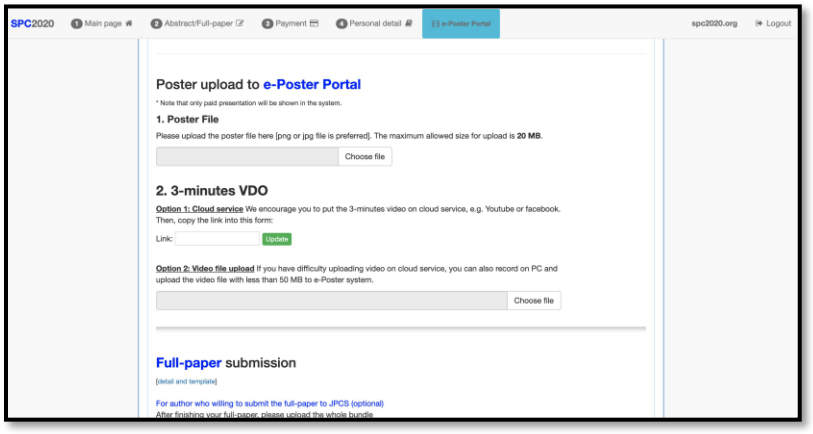

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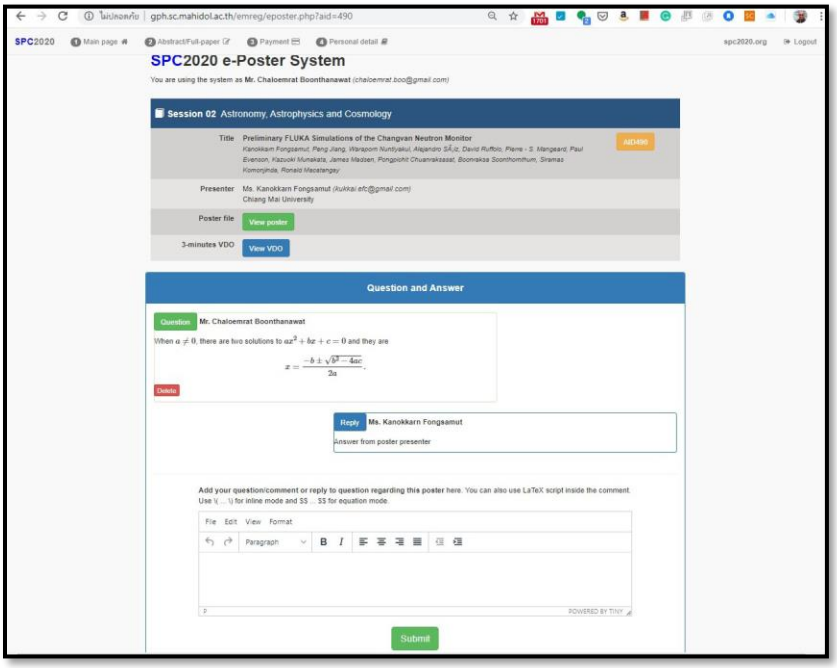

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Track 01: Accelerators and Synchrotron Radiations	
T01-AID563	**Causes of color in purple- and yellow- quartz** *Natthapong Monarumit, Somruedee Satitkune, Bhuwadol Wanthanachaisaeng, Chatree Saiyasombat, Wiwat Wongkokua*
T01-AID638	**Characteristic of Fe in tektite observed from XANES and UV-Vis spectroscopy** *Sarinya Paisarnsombat, Natthapong Monarumit, Siwaporn Aimploysri*
T01-P785	**Investigation of Electron Energy Spread Effects on the Intracavity MIR-FEL Power at the PBP-CMU Electron Linac Laboratory** *Supasin Sukara, Hideaki Ohgaki, Sakhorn Rimjaem*

Track 02: Astronomy, Astrophysics and Cosmology	
T02-AID490	**Preliminary FLUKA Simulations of the Changvan Neutron Monitor** *Kanokkarn Fongsamut, Peng Jiang, Waraporn Nuntiyakul, Alejandro Sáiz, David Ruffolo, Pierre S. Mangeard, Paul Evenson, Kazuoki Munakata, James Madsen, Pongpichit Chuanraksasat, Boonraksa Soonthornthum, Siramas Komonjinda, Ronald Macatangay*
T02-AID492	**Preliminary Analysis of Ice Cherenkov Detector Operation during a Latitude Survey** *Yanee Tangjai, Audcharaporn Pagwhan, Waraporn Nuntiyakul, David Ruffolo, John W Bieber, John Clem, Pierre Simon Mangeard, Roger Pyle, Alejandro Sáiz, IceCube Collaboration*
T02-AID495	**Preliminary Analysis of Neutron Time-Delay Histograms from Changvan Latitude Surveys** *Panutda Yakum, Peng Jiang, Pongpichit Chuanraksasat, Waraporn Nuntiyakul, David Ruffolo, Alejandro Sáiz, Chanoknan Banglieng, Paul Evenson, Kazuoki Munakata, James Madsen, Boonraksa Soonthorntham, Siramas Komonjinda, Ronald Macatangay*
T02-AID498	**Short time flux variability of Water maser in W49 N using KaVA data** *M Phetra, K Asanok, T Hirota, B H. Kramer, K Sugiyama, W Nuntiyakul*
T02-AID505	**Monte-Carlo simulation of the response of bare neutron counters at the South Pole to vertical secondary particles from cosmic rays** *Audcharaporn Pagwhan, Waraporn Nuntiyakul, Alejandro Saiz, Pierre - S. Mangeard, David Ruffolo, James Madsen*
T02-AID508	**Period Variation of W UMa type eclipsing binary PY Vir** *Torik Hengpiya, Tharadon Chukaeo, Chaloemchon Wannathong*
T02-AID520	**Design of Yagi antenna for sky survey in radio widow** *Supphasin Sripanit, Paisan Tootrakai , Umnart Sathanon*
T02-AID533	**Empirical Model of Magnetic Field Line Spreading in Isotropic Turbulence with Varying Mean Field** *Wirin Sonsrettee*
T02-AID546	**Preliminary Analysis of the Changvan Neutron Monitor Operation in Latitude Surveys during 2019-2020** *Sidarat Khamphakdee, Peng Jiang, Pongpichit Chuanraksasat, Waraporn Nuntiyakul, David Ruffolo, Alejandro Sáiz, Paul Evenson, Kazuoki Munakata, James Madsen, Boonraksa Soonthorntham, Siramas Komonjinda, Ronald Macatangay*

T02-AID564	**Constraints on Dark Matter Annihilation from Several IACTs' Cosmic Ray Electron Spectrums** *Chaimongkol Duangchan, Maneenate Wechakama*
T02-AID610	**Effect of Dark Matter Pressure on Rotation Curves of Low Surface Brightness Galaxies** *Chaimongkol Duangchan, Wonchana Sinpaiboon, Nakarin Chantaso, Waeowan Haethaisong, Maneenate Wechakama*
T02-AID612	**The Orbital Period Change of a RR Cae Eclipsing Binary System** *Ronnakrit Rattanamala, Siramas Komonjinda, Supachai Awiphan, Pranita Sappankum*
T02-AID633	**A Search for Globular Clusters in the Halo around M81** *Chutipong Suwannajak, Phatcharapon Sookmee, Prapaporn Techa-Angkoon, Benjamas Panyangam, Nahathai Tanakul*
T02-AID685	**Pointing Accuracy of NARIT 4.5m Small Radio Telescope** *Chaiyaphorn Nilarat , Nakornping Namkhham, Kitiyanee Asanok, Phrudth Jaroenjitticha*
T02-AID703	**Confronting Galactic model and microlensing data with MaBulS** *Supachai Awiphan, Annie Robins, Eamonn Kerins*
T02-AID709	**Near-Infrared Imaging Polarimetry and Star Formation Scenario in W40 Complex** *Amnart Sukom, Ram K. Yadav*
T02-AID771	**Kepler-TESS Light Curve Analysis of KIC 10417986 as a Practical Example for Astronomical Research in Schools** *Apisit Aindang, Ruttadaporn Inkum, Thawicharat Sarotsakulchai, Farung Surina*
T02-AID791	**Traversable wormholes in massive gravity theory** *Nopadhol Kamma, Pitayuth Wongjun, Ratchaphat Nakarachinda, Burin Gumjudpai*

Track 03: Atomic Physics, Quantum Physics, Molecular and Chemical Physics

T03-AID496	**Canonical quantization of neutral and charged static black hole as a gravitational atom** *David Senjaya, Alejandro S. Rivera*
T03-AID584	**Low-cost external cavity diode laser for cold atom experiments** *Wipawee Temnuch, Sitti Buathong, Phalla Phearivan, Sarayut Deachapunya*
T03-AID651	**Role of wavefront and velocity distribution with magnetic lens on matter-wave diffraction in near-field regime** *Kunaree Wongrach, Jirapat Janpoon, Sarayt Deachapunya, Sorakrai Srisuphaphon*
T03-AID679	**A Simple Technique for Demonstration of Nonlocality of Polarization-Entangled Photons** *Kitisak Boonkham, Watkornphat Aunprom-me, Teeratat Uranpanichakul, Arithat Ariyanuchitkul*
T03-AID790	**Theoretical Study of Intermolecular Interactions in Protic Ionic Liquids: A Single Ion Pair Picture** *Panat Nanthanasit, Narupon Chattrapiban, Monchai Jitvisate, Piyarat Nimmanpipug, Sakhorn Rimjaem*

Track 04: Biological Physics, Biosensors and Chemical Sensors	
T04-AID646	**Venipuncture sensor in rubber arm system, an option for venipuncture tutors** *Yaowapa Saengpayab, Faongchat Jarintanan, Wichai Kongsri, Ekachai Chongsereecharoen, Noppamas Pratummasoot*
T04-AID749	**Paper-based colorimetric sensor for potassium ions detection in urine by crown ether modified gold nanoparticles** *Khwanrudee Chitbankluai, Chittanon Buranachai, Warakorn Limbut, Panote Thavarungkul*
T04-AID759	**Personal Identification Using Wrist Vein** *Siwa Srathongkao, Nuttakrit Somdock, Bhanupol Klongratog*
T04-AID764	**Effect of AC and DC electric field on growth of Khao Niew Khiaw Ngoo Chiang Rai No. 8974** *Komkrich Kaewpanus, Kanlaya Fairungrot, Parnjuree Audompanaprai, Meechai Thepnurat*

Track 05: Condensed Matter Physics	
T05-AID620	**First principle study of thermoelectric properties in transition metal dichalcogenide ($HfSe_2$)** *Chayanon Chanapal, Ittipon Fongkaew*
T05-AID621	**First Principle Study of electrical conductivity from native defect in $In_4Sn_3O_{12}$** *Papawit Nongkhunsan, Suwit Suthirakun, Theeranun Siritanon, Ittipon Fongkaew*
T05-AID623	**First Principle Calculation to Study Negative Capacitance in Perovskite Materials** *Thatthep Rukpanich, Ittipon Fongkaew*
T05-AID739	**Structural and electronic properties of 2D chalcogenides** *Ibrahim Y. Muhammad*

Track 06: Environmental Physics, Atmospheric Physics, Geophysics and Renewable Energy	
T06-AID479	**Determination of Some Rare Earth Elements and Thorium in Soil Samples by Acid Digestion using Inductively Coupled Plasma Mass Spectrometry Technique** *Sasikarn Nuchdang, Jatechan Channuie, Wilasinee Kingkam, Dussadee Rattanaphra*
T06-AID482	**Identification and Characterization of Uranium and Thorium in Thai Monazite Processing by Non-Destructive Techniques** *Wilasinee Kingkam, Sasikarn Nuchdang, Orapun Leelanupat, Rungarun Sroysaeng, Dussadee Rattanaphra*
T06-AID528	**Mixing Height Estimation from Atmospheric LiDAR Measurements over Chiang Mai, Thailand** *Worapop Thongsame, Ronald Macatangay, Raman Solank, Sheng-Hsiang Wang, Ying-Jen Wu, Li-Jin Ke*

T06-AID556	**The characteristics of urban heat island in Hatyai City, Songkhla, Thailand.** *Phayao Yongsiriwith, Pitchpilai Khoonphunnarai, Muranee Daoh*
T06-AID575	**Microstructure of pyrite related to gold deposit, Huai Yuak area, Sukhothai Province, Northern Thailand** *Ladda Tangwattananukul*
T06-AID596	**Finding optimal hyperparameters of feedforward neural networks for solving differential equations using a genetic algorithm** *Chaloemrat Boonthanawat, Chaiwoot Boonyasiriwat*
T06-AID598	**Sound and Wake Characteristics Generated by Flow Past Triangular Cylinder at Various Incident Angles** *Thanakorn Chanthanasaro, Chaiwoot Boonyasiriwat*
T06-AID601	**An implementation of a recurrent neural network for 1D acoustic waveform inversion** *Panuwat Pukhamwong, Chaiwoot Boonyasiriwat*
T06-AID606	**Heat transfer of heat pipe using Nickel oxide at operating low temperature** *Pattanapol Meena, Oranoot. Saengmart*
T06-AID608	**Heat transfer of heat pipe using titanium dioxide as working fluid** *Supachai Somasr, Pattanapol Meena*
T06-AID641	**Measurement of stable carbon and nitrogen isotope ratio in Thai jasmine rice using elemental analyzer-isotope ratio mass spectrometer** *Supalak Kongsri, Uthaiwan Injarean, Chunyapuk Kukusamude*
T06-AID643	**Stable oxygen isotope ratio in Thai Hom Mali rice by EA-IRMS** *Chunyapuk Kukusamude, Vichai Puripunyavanich, Supalak Kongsri*
T06-AID648	**Using wavelet analysis to study floods in Bangkok, Thailand.** *Narin Juthasirorat, Panatcha Anusasananan, Suksan Suwanarat, Nipon Thangprasert*
T06-AID652	**Effect of carbonization parameters on properties of carbon material obtained from durian shell.** *Jinjuta Owkusumsirisakul, Thanakorn Keeriang, Navadol Laosiripojana, Chaisak Issro*
T06-AID731	**Reliability validation between Laser PM Sensor-based and Continuous Ambient Particulate Monitor for Particulate Matter Concentrations** *Supachai Nakapun*
T06-AID742	**A 1-D velocity model beneath northern Thailand inverted from AK135** *Kasemsak Saetang, Helmut Dürrast*
T06-AID761	**Physical Properties of Termite Mound Soil in Para Rubber Plantation of Southern Border Provinces** *Nawarat Seetapong, Sarawut Chulok, Nasreen Dortha*
T06-AID779	**Fundamental study of preservative capacity and removal of residual paraquat on vegetables by micro-nano bubble treatments** *Sumonman Niamlang, Supanit Chungyampin, Thammarak Deeraksa, Voranuch Thongpool, Kiyoshi Yoshikawa, Nathabhat Phankong, walanrak poomchalit*

Track 07: High Energy and Particle Physics	
T07-AID636	**R-symmetry Breaking in Broken Supersymmetric Vacuum in SUSY Gauge Theory** *Sirapat Lookrak, Udom Robkob*
T07-AID656	**Simulation of hypertriton productions in pb-pb collisions at ALICE using PACIAE model** *Natthapon Somparn, Sukanya Sombun, Ayut Limphirat, Chinorat Kobdaj, Yupeng Yan*

Track 08: Instrumentation, Metrology and Standards	
T08-AID488	**The Determination of Correction Factors for Free-air Ionization Chamber Calculation using Monte Carlo Method** *Pongphanot Rindhatayathon, Krittayot Koonkana, Vithit Pungkun*
T08-AID532	**Calibration of whole-body counter for assessment of internal dose in the human body** *Chotika Dararutana, Norhayati B. Abdullah*
T08-AID562	**Internal Resistance Measurements of Li-Ion Batteries using AC Methods** *Sit Kuntinugunetanon, Wanchai Meesiri, Wiwat Wongkokua*
T08-AID565	**Multiple Laser Excitation Spectroscopy of Beryllium Heat Treatment in Synthetic Ruby** *Nuttapong Keawdonree, Natthapong Monarumit, Sakchai Chomkokard, Noparit Jinuntuya, Wiwat Wongkokua*
T08-AID582	**Non-Invasive Glucose Meter for Monitoring Blood Glucose Levels** *Umpon Jairuk, Akapong Phunpueok, Nithiwatthn Choosakul*
T08-AID634	**The development of the glass refractive index measurement apparatus** *Amorn Thedsakhulwong, Suwanna Sorson*
T08-AID653	**The signal calibration from a sagnac polarized standing wave interferometer for displacement measurement** *Tanyalak Nuntakulkaisak, Yingyot Infahsaeng, Ruchipas Bavontaweepanya, Ekkarat Pongophas*
T08-AID657	**The effect of non-uniform magnetic field on the energy spread of a low energy electron beam** *Nattawut Suksawat, Rattachai PInchaipat*
T08-AID683	**Simulation of Cutoff Characteristics of 2.45 GHz Microwave Inside the Open-ended Conductor Cylindrical Pipe** *Apassara Rachpibul, Mudtorlep Nisoa*
T08-AID694	**Development of Paraquat Test Kit using Glucose as a Reducing agent** *Voranuch Thongpool, Sumonman Niamlang, Netnapit Kaewchuay, Deaw Aphairaj*
T08-AID708	**Preliminary results from a feasibility test of mixed alpha source detection by prototype bare silicon devices** *Kullapha Chaiwongkhot, David Ruffolo, Wittawat Yamwong, Jirawat Prabket, Udomrat Tippawan*
T08-AID729	**Application of Multi-Wavelength Light Source to Micro Welding Inspection** *Kanyaporn Ketthong, Jantarat Markchum, Sakchai Chomkokard, Noparit Jinuntuya, Wiwat Wongkokua*

Track 09: Ion and plasma Physics	
T09-AID536	**Program Setup and Parameter Dependences of GUPIXWIN-Calculated Trace Element Concentration Measured by PIXE Analysis** *S. Wongke, L.D. Yu, U. Tippawan*

Track 10: Magnetic and Semiconductor Physics

Track 11: Material Physics, Nanoscale Physics, and Nanotechnology	
T11-P481	**Solubility Limit of Mn on SnO2 Nanoparticles: Structural and Optical Properties** *Akekapol Winyayong, kwanruthai wongsaprom*
T11-P523	**Effects of operating temperature on the electrochemical performance of a LiMn0.5Fe0.5PO4 cathode material for lithium ion batteries** *Sujeera Pleuksachat, Phongsit Krabao, Sarawut Pongha, Jeffrey Nash, Nonglak Meethong*
T11-P527	**Synthesis of carbon quantum dot from water hyacinth stalk by radiation processing** *Kanokorn Wechakorn, Panida Sangangam, Nattamon Puengposop, Pattra Lertsarawut, Tanagorn Kwamman*
T11-P542	**Activated Carbon Derived from Coconut Shell Chars for use as a Cathode Material in Aluminum-Ion Batteries** *Panya Thanwisai, Pornjira Phuenhinlad, Nattha Chaiyapo, Yutthakon Kanaphan, Jeffrey Nash, Chuleekorn Chotsuwan, Tirapote Rattana-amron, Annop Klamchuen, Nonglak Meethong*
T11-P567	**Influence of Heat Treatments on Microstructure and Properties of Thermally Sprayed Ni-Cr-Mo-Al Alloy Coating** *Aradchaporn Srichen, Chaiyasit Banjongprasert*
T11-P570	**The Efficiency of Mangosteen Peels for Dye Removal** *Chanadda Phawachalotorn, Nathaporn Suwanpayak*
T11-P583	**Study on particle size and size distribution of gold nanoparticles by TEM and SAXS** *Thitirat Rattanawongwiboon, Siriwat Soontaranon, Kasinee Hemvichain, Pattra Lertsarawut, Roppon Picha*
T11-P616	**First-Principles Calculation for Water Purification of Pb, Sn, and Zn Ions Adsorption on Graphdiyne Surface** *Sirisak Singsen, Parinya Tangpakonsab, Nipat Tussamee, Thanayut Kaewmaraya*
T11-P624	**Effect of Mn Doping in CdS Quantum Dot Sensitized Solar Cells Grown by SILAR Method** *Juthapak Srisomroop, Napasuda Wichaiyo, Witoon Yindeesuk*
T11-P630	**Relation of area fraction and fractal dimension of silicon thin films prepared by using aluminum-induced crystallization technique** *Adullawich Kaewkao, Surasak Chiangga*

T11-P631	**Effects of Elasticity on Sound Absorption Properties of Polyurethane Foam** *Purintorn Chanlert, Polphat Ruamcharoen*
T11-P637	**Synthesis of Pb doped CdS quantum dot using SILAR method on mesoporous TiO_2 layer** *Yosita Sudswasd, Feng Liu, Taro Toyoda, Qing Shen, Witoon Yindeesuk*
T11-P639	**Increasing performance of n-i-p Planar Perovskite Solar Cells using Titanium Dioxide Sol-gel doped with Zinc-Cadmium-Sulfide Nanoparticles as an Electron Transport Layer** *Khathawut Lohawet, Anusit Kaewprajak, Pisist Kumnorkaew*
T11-P658	**Electric field effect on electrospun fiber alignment using a parallel electrode plate** *Karnjana Oncheurn, Yingyot Infahsaeng*
T11-P671	**Dielectric permittivity and electrical breakdown strength of PVDF-TrFE-CTFE/PVDF-HFP film Composites** *Suphita Chaipo, Chatchai Putson*
T11-P680	**Scintillation properties of GSO:Ce and LGSO:Ce single crystals for gamma-ray detection** *Akapong Phunpueok, Voranuch Thongpool, Sarawut Jaiyen, Umpon Jairuk*
T11-P688	**RICE HUSK AND RICE STRAW REINFORCED POLYLACTIC ACID (PLA) COMPOSITES FOR 3D PRINTING APPLICATION** *Tanet Prommajun, Montip Lowsuriyonta, Ponlapath Tipboonsri, Anin Memon*
T11-P690	**3D printing filament from polylactic acid mixed with thai rice** *Narongsak Boonchuay, Supaaek Pramoonmak, Jirawat Jai-Au, Anin Memon*
T11-P692	**Characteristics of porous silica nanoparticles synthesized by a co-condensation combined with bi-phasic method** *Chalad Yuenyao, Wirachai Meesuk*
T11-P695	**Long Fiber Thermoplastic Pellets from Pultrusion Process** *Ponlapath Tipboonsri, Anin Memon*
T11-P706	**Structural Stability and Electronic Structure of Zr-based Vacancy-Ordered Double Halide Perovskite: Cs_2ZrX_6 (X=Br, Cl, and I)** *Chaiyawat Kaewmeechai, Yongyut Laosiritaworn, Atchara P. Jaroenjittichai*
T11-P714	**Nano-silica xero-gel synthesized from rice straw ash** *Oranush Yosma, Chalad Yuenyao*
T11-P715	**Synthesis of TiO2 porous particles using different templates** *Chanyalack Kumsee, Chalad Yuenyao*
T11-P716	**Enhanced beta-phase formation and dielectric properties of P(VDF-HFP) nanofibers composites filled with polyaniline** *Nikruesong Tohluebaji, Safitree Nawae, Jureeporn Yuennan, Chatchai Putson, Nantakan Muensit*
T11-P718	**Synthesis of Tunsten doped Titanium Dioxide Nanofiber for The Degradation of Paraquat by Photocatalytic Process** *Voranuch Thongpool, Akapong Phunpueok, Sarawut Jaiyen, Nuchita Sukprasit*
T11-P720	**Structural and electronic properties of $LiMnO_2$ doped with transition metals: A first-principles study** *Nontawat Chaiyaocha, Worasak Sukkabot*

T11-P721	**Preparation of self-cleaning hydrophobic P(VDF-HFP) nanofibers** *Jureeporn Yuennan, Safitree Nawae, Nikruesong Tohluebaji, Chatchai Putson, Nantakan Muensit*
T11-P724	**Effect of flow rate on the fabrication of Poly (vinylidenefluoridene-hexafluoropropylene) nanofibers** *Safitree Nawae, Nikruesong Tohluebaji, Jureeporn Yuennan, Chatchai Putson, Nantakan Muensit*
T11-P755	**The Characterization of Y134 Superconductor Doped Manganese Oxide Prepared by Solid State Reaction** *Pariwat Kumtha, Tunyanop Nilkamjon, Thitipong Kruaehong, Supphadate Sujinnapram, Somporn Tiyasri, Wirat Wongphakdee, Pongkaew Udomsamuthirun*
T11-P757	**The Effect of Mn_3O_4 doped on critical temperature of Y145 superconductor** *Anongdavone Ponchanthai, Tunyanop Nilkamjon, Supphadate Sujinnaparm, Thitipong Kruaehong, Somporn Tiyasri, Wirat Wongphakdee, Pongkaew Udomsamuthirun*
T11-P774	**Effect of soaking times on ferroelectric properties and strain behavior of PLZT ceramics** *Narit Funsueb, Apichart Limpichaipanit , Athipong Ngamjarurojana*
T11-P775	**Synthesis of graphenes in atmospheric plasma by microwave radiation** *Natthakrit Subtim, Siripatsorn Thanasanvorakun, Supab Choopun, Surachet Phadungdhitidhada*
T11-P776	**Development of cornstarch based hydrogel drug delivery patch controlled by electric field for hypertension** *Phitchaphon Jaruchalermrat , Sumonman Niamlang*

Track 12: Nuclear and Radiation Physics	
T12-AID544	**Naturally Occurring Radioactive Material (NORM) in the seawater and sand samples of Suchada beach, Sai Tong beach and Pradu Bay, Rayong, Thailand.** *Phachirarat Sola, Utaiwan Unjarean, Dussadee Rattanaphra, Udorn Youngchuay, Supalak Kongsri, Chunyapuk Kukusamude, Ritiron Samran, Nopparit Chngkit*
T12-AID592	**Radon Measurement in Construction Materials from Eight Thailand Provinces** *Rittiron Samran, Phachirarat Sola, Uthaiwan Injaroen, Roppon Picha*
T12-AID607	**Measurement of NORM in Building Materials to Assess Radiological Hazards to Human Health and Develop the Standard Guidelines for Residents in Thailand: Case Study in Sand Samples Collected from Four Northeastern Thailand Provinces** *Uthaiwan Injarean, Phachirarat Sola, Roppon Picha, Ritiron Samran*
T12-AID665	**Optimization of Radiation Shielding Design for Thai Neutron Imaging System by Using Monte Carlo Simulation** *Sarinrat Wonglee, Thawatchart Chulapakorn, Weerawat Pornroonruengchok, Thiansin Liamsuwan, Sutasinee Kotayee*
T12-AID686	**Development of a compact X-ray fluorescence elemental mapping system for pigments on painted pottery** *Sarawut Jaiyen, Thanapat Poonthong, Nuttha Srikanjana, Janthanee Authisin, Chanoknan Banglieng, Nithiwatthn Choosakul, Voranuch Thongpool, Akapong Phunpueok*

T12-AID728	**X-ray spectroscopy study of ancient glass beads at Hor-Ek, Thailand** *Krit Won-in, Pisutti Dararutana*
T12-AID734	**Quantitative Analysis in Termite Mound in The Southern of Thailand by Wavelength Dispersive X-Ray Fluorescence Technique (WDARF)** *Munee Daoh, Phayao Yongsiriwith, Areeya Tamat*
T12-AID766	**Effects of low dose gamma irradiation of long period storage tomato seed on germination percentage and seedling growth** *Sukanya Boonsua, Mathuort Chaiharn, Pathipan Sutigoolabud, Kittikhun Prakrajang*
T12-AID770	**Concentrations of U-238 in Selected Thai Spices and the Related Dose Assessment** *Phatchada Nochit, Wutthikrai Kulsawat*
T12-AID787	**Potential Application of Thorium Isotopes in Upland Maize Soils for Assessment Soil Erosion** *Wutthikrai Kulsawat, Netnapit Kaewchuay*
T12-AID789	**Specific Activities of Natural and Anthropogenic Radionuclides in Paddy Soil Samples of Organic Rice Collected from Don Pradu Sub-district in Pak Phayun District, Phatthalung Province, Thailand** *Prasong Kessaratikoon, Warinnicha Junphum, Ruthairat Boonkrongcheep, Nopparit Changkit*

Track 13: Optics, Ultrafast Phenomena, and Photonics

T13-AID605	**Simulation of Electric Field Strength in Liquid Lens from the Concentric Interdigitate Electrode Pattern** *Kamonchanok Duangkanya, Atcha Kopwitthaya, Kittipat Malakit, Yingyot Infahsaeng*
T13-AID667	**Demonstration of absorption and scattering of light from chlorophyll using a smartphone** *Adinan Munmad, Norhamizan Maruesa, Nurhuda Watakee*
T13-AID705	**Effect of Red, Blue, Green and White Light Emitting Diodes on Pigment Content and Sugar Accumulation in Wheatgrass** *Witoon Yindeesuk, Sirichai Sartpan, Surachart Kamondilok*
T13-AID751	**Fabrication of Holographic Grating by alternative setting of Michelson Interferometer** *Chanikan Inneam, Keerayoot Srinuanjan*
T13-AID777	**A circuit design of the laser pulse generator** *Wuttichai Putchana, Amarin Ratanavis, Prathan Buranasiri*

Track 14: Physics Education

T14-AID474	**Classical and Rasch analysis of test of understanding of vectors (TUV)** *Chhor yi Ly, Suttida Rakkapao, Wanida Sumathakulawat*
T14-AID545	**A STEM-based project in the racing robot** *Akapong Buachoom, Karntarat Wuttisela, Sura Wuttiprom*

T14-AID589	**A new manometer with Arduino** *Chokchai Jaewijarn, Sura Wuttiprom*
T14-AID619	**Students understanding the projectile motion by using simple experimental devices that students create themselves.** *Ar-si Dramae, Sura Wuttiprom*
T14-AID622	**A study of inverse square law using LCD display projectors** *Chanyut Fongsuwan, Udom Tipparach*
T14-AID627	**New Discovered Misconceptions of Current, Resistance, and Power in Simple DC Circuits** *Tanatorn Kalaya, Suchai Nopparatjamjomras, Ratchapak Chitaree, Thasaneeya R. Nopparatjamjomras*
T14-AID682	**Evaluation of Physics Attitudes in Eight Categories of Colorado Learning Attitudes about Science Survey (CLASS) among the 2018 first-year undergraduate students in Physics, Mathematics, and Engineer majors of University of Phayao** *Patteera Rittikoop, Watcharawuth Krittinatham*
T14-AID689	**Analyzing learning sequence of nested dielectric objects in 3D rendering** *Tiantada Hiranyachattada, Kampanat Kusirirat*
T14-AID704	**Electrical resistance meter from embedded system for use in physics laboratory for engineers course** *Natawee Chaijum*
T14-AID719	**Research and Development Solar System Model with Electric Motor Rotation via Control System on Smartphone** *JIttawisut Wimuttipanya*
T14-AID730	**Active learning by physics problem solving activity** *Anucha Pratumma*
T14-AID741	**The study of the oscillatory motion of a hollow cylinder on a curved track by using smartphone** *Pimpakarn Laotreephet, Chokchai Puttharugsa*
T14-AID746	**Automated method for measuring band gap of p-n junction semiconductor diode** *Bhanupol Klongratog, Nuttakrit Somdock, Pattareeya Damrongsak*

Track 15: Physics Innovation

T15-AID696	**Design and Development of Hand Gesture Wheelchair** *Deaw Aphairaj, Pattarapon Nummahan, Aphisit Manivong*
T15-AID763	**The Application of UV-C Light for a DIY Fabricated Device to Reduce Bad Smell in Boxing Gloves** *Meechai Thepnurat, Paritchaya Sangto, Nutnicha Jaisuk, Parinya Saphet, Kanitta Supawan, Anusorn Tong-on, Kan Klaewklar*

Track 16: Plasma Fusion and Technology

Track 17: Quantum Technology	
T17-AID666	**Implementation of Quantum-assisted Genetic Algorithm on Quantum Assembly Simulator** *Jirayu Supasil, Sujin Suwanna*
T17-AID727	**Implementation of quantum random walk on a real quantum computer** *Warat Puengtambol, Prapong Prechaprapranwong, Unchalisa Taetragool*

Track 18: Statistical and Theoretical Physics	
T18-AID487	**Some properties of random walks on a simple ladder** *Srawut Sasom, Varagorn Hengpunya*
T18-AID554	**Evolution, Structure and Dynamics of the Thai Stock Market: A Network Perspective** *Somphoach Saichaemchan, Pradeep Bhadola*
T18-AID555	**Analysis and dynamics of the international Coffee and Tea trade network** *Ookrit Sujaritpong, Pradeep Bhadola*
T18-AID603	**Multidimensional Opinion Dynamics Modelling with Interdependent Issues** *Sirikwan Noipitak, Michael A. Allen*
T18-AID613	**A cellular automation traffic flow model for traffic light signal management in intersection system with and without random driving behaviors** *Sukrit Manomairoj, Teerapat Chayanuwong, Sourapat Hiransirawat, Pranee Disrattakit*
T18-AID617	**Dispersion Relation of Ion-Acoustic Waves in Non-isothermal Electron Distribution using Particle-In-Cell Method** *Nathtapon Pakdee, Sarun Phibanchon*

Track 19: Surface, Interface and Thin Films	
T19-AID540	**An eco-friendly bioplastic film obtained from water hyacinth** *Suranan Anantachaisilp, Siriwut Siripromsombut, Tanyanat Ruansoong, Tanagorn Kwamman*
T19-AID588	**Increase in surface hardness of stainless steel by the growth of graphene on stainless steel surface by chemical vapor deposition using waste vegetable oil as a carbon source** *Panaphon Chuenoppakun, Akkawat Ruammaitree*

T19-AID591	**Modifying Surface Properties of Polysulfone Membrane with Plasma from Closed and Opened Plasma Generators** *Chaiporn Kaew-on, Amornrat Sooksom, Surasak Kaew-on, Soraya Ruangdit, Thawat Chittrakarn, Suksawat Sirijarukul*
T19-AID778	**Microstructure and Properties of Arc Sprayed Zn-Al Alloy Coatings** *Tultida Kaewpradit, Duangrada Yutthakamthon, Hathaipat Koiprasert, Chaiyasit Banjongprasert*