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<p>Session TAT11b</p> <p>Topic 11: System Integrity and Protection</p> <p>Session Chair: Dr C. Arnold Prof S.K. Salman</p>	<p>Transient directional protection based on the transformation of positive sequence component Biao Zhang, J H He, Z Q Bo, B R J Caunce and A Klimek. China/United Kingdom</p> <p>An advanced substation communication system for integrated protection J H He, Yingli Ren and Z Q Bo. China/United Kingdom</p> <p>A novel optical current transformer based on comparative measurement Jinling Chen, Hongbin Li, Yanbing Liu & Xiaowei Wang. China</p>	828 832 837

Location: EB A302 Date: Thursday 7 th Sept Time: 09.45-10.45	Investigation into protection of active distribution network with high penetration of embedded generation using radial and ring operation mode S.K. Salman and S.F. Tan. United Kingdom	841
Session TAT11c Topic 11: System Integrity and Protection Session Chair: Dr N. Gupta Prof. C.A. Stassinopoulos Location: EB A302 Date: Thursday 7 th Sept Time: 11.15-12.45	Protection issues associated with the proliferation of static synchronous compensator (STATCOM) type facts devices in power systems Sankara Subramanian, Anthony Perks, Sarath B Tennakoon and Noel Shammas. United Kingdom An advanced real time digital simulator based test system for protection relays D X Du, Z Q Bo, Z X Zhou, A Perks, L Denning and B Smith. China/United Kingdom Load flow method for distribution network design by considering committed loads S. Jamali, M.R. Javdan, H. Shateri and M. Ghorbani. Iran Condition monitoring system for circuit breaker based on substation automation system Zhong Tang and Y. Zou. China Thermal overload protection of induction motors under waveform distortion Mojtaba Khederzadeh. Iran Optimized main protection scheme design Of 600MW Hydro Generator In PuBUGou Power Station Yongjun Xia, Xianggen Yin, Deshu Chen, Zhe Zhang and Wei Chen. China	846 851 856 861 866 871
Session FAT11d Topic 11: System Integrity and Protection Session Chair: Prof. M. Al-Tai Dr N. Gupta Location: EB A302 Date: Friday 8 th Sept Time: 11.15-12.45	A new wavelet transform approach to discriminate magnetizing inrush current and fault current X.L. Feng, J.C. Tan and Z.Q. Bo. China/United Kingdom/Canada A new directional comparison scheme for distribution line protection Dingding Yuan, Xinzhou Dong, Shousun Chen, Z Q Bo, B R J Caunce and A Klimek. China/United Kingdom A new approach for calculating settings of distance relays considering mutual coupling effect Zengli Yang, Xianzhong Duan and Xiongping Yang. China Protective relays performance in a harmonic environment A.R. Al-Zyoud, A. Khraiwish and M. Shakarchi. Jordan New protection principles for power transformer protection Zaojun Ou, J H He and Biao Zhang. China	876 881 886 890

	Over-reaching factor for distance relay with quadrilateral characteristic H. Shateri, and S. Jamali. Iran	898
Session FAT12 Topic 12: High Voltage Engineering Session Chair: Prof. P.N. Mikropoulos Dr N. Bish Location: EB A009 Date: Friday 8 th Sept Time: 09.00-10.45	Identification of surface discharges over new and aged polymeric chain insulators using a non invasive method C. Ramirez and P.J. Moore. United Kingdom Detection of partial discharges at high frequencies F.Alrumayan and I. Cotton. United Kingdom Corona inception in the presence of insulators in a rod-plane gap under positive switching impulse voltages L.A. Lazaridis, P.N. Mikropoulos, C.A. Stassinopoulos, C.D. Kerasaridis and I.G. Lisaridis. Greece Streamer propagation and flashover along insulator surface in a uniform field in air: influence of humidity P. N. Mikropoulos, C. A. Stassinopoulos, M. E. Stapountzi and B. C. Sarigiannidou. Greece Time-frequency modelling of partial discharge radiation from current transformers S. Xiao, P. J. Moore and M. D. Judd. United Kingdom Contribution to calculation of switching overvoltages originated by line energizing in the networks with lumped parameters S. Škuletić and V. Radulović. Montenegro Possibilities of computer application for design of lightning protection of high voltage substation S. Škuletić , G. Herold, C. Weindl and Lj. Knezevic. Montenegro On the pitfalls of charge simulation technique in field calculations M. Abdel-Salam, A. Ahmed, A. Hashim. Egypt Switching surge characteristics in gas-insulated substation A. Ametani, T. Goto S. Yoshizaki, H. Omura and H Motoyama Japan	903 907 912 916 921 926 931 936 941
Session FAT13 Topic 13: Power Utilisation	Electrical network studies for industrial/petrochemical plants C. L. Dall, K.S. Smith and R.C. Wilson. United Kingdom Rational and efficient use of energy in industrial electrical installations José António Beleza Carvalho. Portugal	946 951

Session Chair: Prof. P. Verde Prof. N. Shammas Location: EB A302 Date: Friday 8 th Sept Time: 09.00-10.45	Assessment of DSM potential in the governmental sector in Egypt and its effect on the national power system development Shaher A. Mahmoud, Khaled G. Ahmed, Ramadan F. Aboul-Fetouh and Fatma M. Maayouf. Egypt Energy saving using light emitting diodes in lighting applications Sheryl Nathan, Noel Shammas and Steve Grainger. United Kingdom Market mechanisms and supply adequacy in power sector reforms in Latin America T. J. Hammons, L. A. Barroso and H. Rudnick. United Kingdom/Brazil/Chile Improved control of isolated power system by the use of feeding technique Amit Soni and C.S. Özveren. United Kingdom Modified pricing model for energy exchanges R. Biernatzki, A. Soennecken, B. Bitzer and M. Heppelmann. Germany	956 960 965 974 978
Session WPT14a Topic 14: Power Quality Session Chair: Prof. S. Tennakoon Dr B. Zahawi Location: EB A316 Date: Wednesday 6 th Sept Time: 13.45-15.15	Assessment of voltage dip staging for low voltage systems M.H.Abderrazzaq. Jordan Linear feedback controller for D-STATCOM in DPG fault application S. Aizam, Kok. B.C., N. Mariun, H. Hizam and N. I. Abd Wahab. Malaysia Harmonic modelling of solar inverters and their interaction with the distribution grid A.J.A.Bosman, J.F.G. Cobben, J.M.A. Myrzik, and W.L. Kling. Netherlands Harmonic intelligent control with active power filter Eng. Talaat Abu El-Fetoh. Egypt Sensorless direct power control for a DSTATCOM A. Rahmati, A. Abrishamifar and A. Abiri. Iran Fast detection of voltage collapse proximity in radial distribution systems Mohamed M. Hamada. Egypt	982 986 991 996 1001 1006
Session WPT14b Topic 14: Power Quality	Artificial neural network modelling technique for voltage stability assessment of radial distribution systems Mohamed M. Hamada, Mohamed A. A. Wahab, Nasser G. A. Hemdan. Egypt	1011

Session Chair: Dr H. Schau Prof. P. Verde Location: EB A316 Date: Wednesday 6 th Sept Time: 15.45-17.15	Power quality disturbance classifier based on distribution of energy in detailed coefficients of wavelet transform V. Zarei and A. Jalilian. Iran Real coded genetic algorithm compared to the classical method of Fast Fourier Transform in harmonics analysis Naser Zamanan, Jan K. Sykulski and A. K. Al-Othman. United Kingdom/Kuwait Power quality indices of distribution networks with embedded generation P. Caramia , C. Di Perna, P. Verde, F. Buriola, A. Stocco and R. Turri. Italy System requirements of real time continuous data acquisition for power quality monitoring V. Kuhlmann, C. P. Arnold and M.B. Dewe. New Zealand Performance optimisation of a full wave AC to DC converter using genetic algorithms W. Hosny and R.Holcek. United Kingdom/Slovak Republic	1021 1026 1031 1036
Session FAT14c Topic 14: Power Quality Session Chair: Dr M. Jovanovic Dr H. Schau Location: EB A001 Date: Friday 8 th Sept Time: 11.15-12.45	Series and shunt compensators effects on harmonic resonant frequencies excursions M.Z. El-Sadek, M.A.A. Wahab, M. Hamada and M. R. Ghallab. Egypt Mathematical development, investigation and simulation of a new quadratic voltage index H Nouri, A Polycarpou and Li Zhenbiao. United Kingdom/China The cheapest way to solve the flicker problem J.F.G.Cobben, C. Rong, W.L. Kling and J.M.A. Myrzik. Netherlands A study of shunt active filter generating the DC biased current Iurie Axente, Malabika Basu, Michael F. Conlon and Kevin Gaughan. Ireland Simulation method for identifying a harmonic offender in a power system containing multiple six-pulse drives W.C. Stemmet and G. Atkinson-Hope. South Africa Effective control method of power compensator with Lithium-Ion battery for DC railway system Naoto Nagaoka, Masayuki Sadakiyo, Nobutaka Mori, Akihiro Ametani, Shigeki Umeda and Jun Ishii	1041 1046 1051 1061 1067

Session WAT15 Topic 15: Expert Systems Session Chair: Prof. R. Billinton Dr P. Minns Location: EB A316 Date: Wednesday 6 th Sept Time: 11.45-12.45	Application of neural networks on next-day electricity prices forecasting J.P.S. Catalão, S.J.P.S. Mariano, V.M.F. Mendes and L.A.F.M. Ferreira. Portugal The use of fuzzy cognitive agents to simulate trading patterns within the liberalised UK electricity market D Borrie, S. Isnandar and C.S. Özveren. United Kingdom Performance of a fuzzy logic based automatic voltage regulator in single and multi-machine environment P.Mitra, Dr.S.Chowdhury, Dr.S.P.Chowdhury, Prof.S.K.Pal, Prof.Y.H.Song and Dr.G.A.Taylor. India/United Kingdom Power transformer fault diagnosis based on fuzzy integral fusion Zhou Ling, Yan Huimin and Cao Yonggang. China	1072 1077 1082 1087
Session TAT16 Topic 16: Power Engineering Education Session Chair: Prof. C.A. Stassinopoulos Prof. R. Perryman Location: EB A001 Date: Thursday 7 th Sept Time: 09.45-10.45	A simplified procedure for computing the environmental magnetic field generated by power lines with complex geometric configurations A. Doni, F. Moro and R.Turri. Italy Matlab/Simulink model of space vector PWM for three-phase voltage source inverter Atif Iqbal, Adoum Lamine, Imtiaz Ashraf, Mohibullah. India/United Kingdom Teaching the PWM AC voltage controller using Matlab graphical user interface Ibrahim A. Altawil, and Osama I. Hajier. Jordan Optimal mix for blended delivery of power engineering programme at the University of East London W. Hosny. United Kingdom	1096 1101 1107