

Contents

01	Piotr PAPLIŃSKI, Jacek WAŃKOWICZ, Przemysław RANACHOWSKI, Zbigniew RANACHOWSKI - Experience from exploitation of surge arrester counters	1
02	Waldemar ZIOMEK - Autotransformers for power systems	8
03	Piotr PAPLIŃSKI, Hubert ŚMIETANKA, Jacek WAŃKOWICZ - Effect of electromagnetic field in close vicinity of cable poles on generally accessible environment	13
04	Piotr PRZYBYŁEK, Hubert MORAŃDA, Hanna MOŚCICKA-GRZESIAK, Ireneusz KOWNACKI, Rafał ZAWISZ – Drying distribution transformer’s insulation by means of liquid medium	18
05	Marek ANDRZEJEWSKI, Wiesław GIL, Wiktor MASŁOWSKI - The partial discharge monitoring module	22
06	Józef LORENC, Bogdan STASZAK, Ryszard BORUCKI, Michał TORBUS - Criteria for the regulation of follow-up earth fault compensation in medium voltage networks	29
07	Jarosław PARCIAK, Edward GULSKI, Aleksandra RAKOWSKA, Krzysztof SIODŁA - Experiences from acceptance and exploitation tests of high voltage cable lines	33
08	Mateusz CYBULSKI, Piotr PRZYBYŁEK - Water sorption isotherms for 3A and 13X molecular sieves in the aspect of their use for drying the transformer insulation system	37
09	Krzysztof ŁOWCZOWSKI - Impact of voltage distortions on overvoltage during phase to ground fault	41
10	Marcin STANEK - Development of electrical discharges in biodegradable esters liquids under lightning impulse voltage in system with insulating barrier	45
11	Katarzyna TRELA, Konstanty M. GAWRYLCZYK - Verification of transformers windings models for FRA	49
12	Kamil BARCZAK, Dominik DUDA, Krzysztof MAŻNIEWSKI – Insulating properties of optical fiber current sensor with external conversion	53
13	Dominik DUDA - Line-to-earth short-circuit current flow and selection of surge arresters to protect HV cable sheaths	57
14	Jakub FURGAŁ, Maciej KUNIEWSKI, Piotr PAJAŁ - Propagation of switching overvoltages in transformer windings	61
15	Renata MARKOWSKA - Modeling of static and surge properties of the power system pole grounding for various soils	65
16	Paweł RÓZGA, Radosław SZEWCZYK - Comparative assessment of impregnation efficiency of insulating pressboard by selected dielectric esters and mineral oil using capillary action test	69
17	Jan ZIAJA, Maciej JAROSZEWSKI, Marcin LEWANDOWSKI, Maciej SASUŁA - Flexible materials used in electromagnetic field shielding	73
18	Paweł ŻYŁKA, Piotr WAWRZYŃIAK - Supplying remote measurement systems installed on overhead transmission lines	77
19	Krzysztof WIECZOREK - Influence of the Shape of Composite Insulators Housing on their Aging Resistance in presence of High DC Voltage and Clean Fog	81
20	Szymon BANASZAK - Application of FRA method in a diagnostics of rotating machines	85
21	Janusz SZCZECHOWSKI, Krzysztof SIODŁA - Alternative methods of partial discharge measurements in power transformers – factory tests and diagnostics	89
22	Franciszek SIDORSKI - Work characteristics of charging stations for electric buses	95
23	Oleg KUZMIN, Dietrich SAUTTER, Sairam THUMMALACHARLA - Anisotropy of loss density of chosen electrical steel sheets	99
24	Maciej JAROSZEWSKI, Abderrahmane BEROUAL, Jakub LACHOWSKI - Insulating barriers efficiency on the dielectric strength of organic ester oil gaps	104
25	Przemysław FATYGA, Hubert MORAŃDA - Pressboard thickness influence on the speed of penetration of the synthetic ester in a mineral oil-pressboard insulating system after an exchange of the liquids	107
26	Ryszard KACPRZYK, Justyna KRÓL - Hazards of discharges from fabric surfaces	113
27	Kamil LEWANDOWSKI, Hubert MORAŃDA - Detection of windings short-circuits in a power transformer using the SFRA method	118
28	Filip POLAK, Wojciech SIKORSKI, Krzysztof SIODŁA - Partial discharge sources localization with the use of microstrip patch antennas array	122
29	Marcin RACŁAW, Jarosław GIELNIAK - Application vibroacoustic in the diagnosis of on-load tap changer	126
30	Aleksandra SCHÖTT - High power transformers working in quasi-reactor mode in 220 kV lines	130

PRZEGLĄD ELEKTROTECHNICZNY Vol 2018, No 10

Contents

31	Wojciech SZOKA - Application of algorithms for interpreting FRA results	134
32	Cyprian SZYMCZAK¹, Wojciech SIKORSKI¹, Krzysztof SIODŁA¹, Michał GRABIA - Construction UHF antenna PIFA type for partial discharges monitoring in power transformer	138
33	Daria ZŁOTECKA - Excessive HV line sags as a cause of failures in power systems	143
34	Małgorzata GÓRCZEWSKA, Sandra MROCZKOWSKA, Przemysław SKRZYPCZAK - Use of ultra-high speed UV camera for observation of electrical discharge development in point-to-plane electrode configuration	148
35	Justyna CZERWONKA, Michał KOZIOŁ, Jerzy SKUBIS - Influence of blade electrodes geometry on electric resistance of air in a non-uniform field	152
36	Krzysztof SZUCHNIK, Michał KOŁTUN - Analysis of atmospheric surges in 110 kV cables in lines with special bonding and examination of the influence of surge arresters on the level of voltage exposures	156
37	Marek ZENKER, Andrzej MROZIK - Dielectric response of aramid paper impregnated with synthetic ester	164
38	Stefan WOLNY - Analysis of dispersion characteristics of aramid paper impregnated with natural and synthetic ester in the high frequencies domain	168
39	Ryszard KACPRZYK, Adam PELESZ - Problems of potential distribution measurements on objects with a constant charge	172
40	Adam PELESZ - Charging of a single soap bubble	176
41	Jan KUPRACZ, Bożena ŁOWKIS - Properties of electrets produced by corona discharge	180
42	January L. MIKULSKI, Lesław KARPIŃSKI, Sebastian ZAKRZEWSKI - 220 kV Type Test on cable system	184
43	Wiktoria KALUS, Łukasz NAGI - The influence of the shape of electrodes of electroadhesive on the momentary holding of electrostatic force	188
44	Anna KOZMIC, Michał KOZIOŁ, Jerzy SKUBIS - Influence of dielectric barrier on the electrical resistance of air in insulation systems	191
45	Kamil STAROSTA, Bolesław BRÓDKA, Jarosław GIELNIAK - The analysis of electric field in chosen parts of power transformer insulating system	195
46	En Dar KIM, Krystian Leonard CHRZAN - Chains consisted of composite insulators and cap and pin insulators	199
47	Sławomir SOWA, Jarosław GIELNIAK - Photoresistor matrix utilisation in indoor light intensity distribution investigation	203
48	Muhammad Tajammal Chughtai - Temperature Compensated Bias Supply Circuit for Photodiodes	207
49	Mahmoud M.S. ALSUOD - Development of the system of preemptive control over excitation of a synchronous generator to reduce voltage dips when starting-up asynchronous motors	210
50	Tomasz CZAPKA, Angelika WOŚ, Marcin PALEWICZ - Influence of non-thermal plasma on the properties of layer using for the protection of photovoltaic cells	216
51	Sławomir CHMIELARZ, Tomasz MOLENDĄ, Wojciech KORSKI, Krzysztof OSET - Formal aspects of designing intrinsically safe explosion-proof apparatus	221