

C O N T E N T S

PREFACE	v
01 ELEMENTARY PROCESSES	
<u>Excitation and ionization processes</u>	
0101 Study of the secondary ionization processes in krypton discharges	1
W. Bruynooghe, L. Jacques	
0102 Helium excitation and ionization by instationary shock fronts	3
H. Drymael	
0103 Impact ionization cross sections for neutral and ionized neon	5
V. Strzondala	
0104 Production of multiply charged heavy ions in an electron beam ion source and investigation of charge exchange processes	7
A. Müller, E. Salzborn	
0105 Energy threshold of associative ionization in cesium vapour and dissociation energy for Cs_2^+ ion	9
Yu.P. Korchevoy, I.N. Hilko	
0106 Negative ion production in potassium discharge plasma	11
Yu.P. Korchevoy, V.N. Makarchuk	
0107 Studies of energy transfer processes in weakly ionized neon and argon at high pressure	13
J.W. Leonhardt, P. Popp	
0108 Surface ionization: halogens on LaB_6	15
J. Pelletier, C. Pomot	
0109 Threshold excitation of simple hydrocarbons by mono-energetic electrons	17
J. Rutkowsky, H. Drost, H.-J. Spangenberg	
0110 Transfer of excitation between the 2p levels of neon by collisions with neon atoms	19
M. Prins, F.C.M. Coolen, N. van Schaik, R.M.M. Smits	
<u>Recombination, attachment and detachment processes</u>	
0111 Ionization current growth in carbon-dioxide, nitrogen and their mixtures	21
A.V. Risbud, M.S. Naidu	

VIII

0112	Analysis of discharge development with relative motion between gas and electrodes R.C. Davidson, B.H. Crichton, O. Farish	23
0113	Transport and attachment processes in fluorine-rare gas mixtures K.J. Nygaard, S.R. Hunter, S.R. Foltyn	25
0114	On the effect of detachment processes on the uniformity of a stationary non-self-sustained discharge A.S. Kovalev, T.V. Rakhimova, A.T. Rakhimov	27
0115	Electron-ion recombination in heated argon P. Lukáč, O. Mikus, Z. Zábuldá	29
0116	Contribution to the study of the electron-ion recombination in an argon plasma A. Gleizes, H. Kafrouni	31
0117	Investigation of the influence of added neon on the recombination decay of a helium plasma generated by an electron beam Yu.I. Bichkov, A.P. Khuzeev, Yu.D. Korolev, V.V. Rizhov, S.B. Volkova	33
 <u>Decay processes in afterglow</u>		
0118	The impact-radiative recombination rate in a strongly ionized helium plasma E.F. Gippius, B.I. Iljukhin, V.N. Kolesnikov	35
0119	Measurements and calculations on neon afterglows L.W.G. Steenhuyzen, N. van Schaik, J.W. Denneman	37
0120	Pressure dependence of the production of 1 s atoms by recombination in a neon afterglow L.W.G. Steenhuyzen, N. van Schaik, F. Verspaget	39
0121	Collisional relaxation of the metastable $6s' [1/2]_0$ and resonant $6s' [1/2]_1$ xenon atoms J. Sabbagh, N. Sadeghi	41
0122	Diffusion of metastable mercury atoms in rare gases N.A. Krjukov, N.P. Penkin, T.P. Redko	43
0123	Hollow cathode stationary afterglow apparatus M. Langenwalter, M. Grössl, T.D. Märk	45
0124	The time decay of electron-atom-bremstrahlung of rare gases medium pressure discharges in the spectral range 200-1000 nm P. Michel, R. Winkler, J. Wilhelm	47
0125	On some peculiarities of plasma decay in noble gases P.S. Bulkin, S.A. Dvinin, G.S. Solntzev	49

0126	On the mechanisms of N ₂ -afterglow L.S. Polak, D.I. Slovetsky	51
0127	Molecular nitrogen excitation study in the glow discharge and its afterglow L.S. Polak, D.I. Slovetsky, A.D. Urbas, T.V. Fedoseyeva	53
0128	Ionization and ion conversion processes in the pink nitrogen afterglow L.S. Polak, P.A. Sergeev, D.I. Slovetsky	55
0129	Electron and ion density enhancement in short lived nitrogen afterglow J. Janča, N.M. El Kattan, A. Tálský	57
0130	Microwave quenching of neon atomic spectral lines in a pulse excited negative afterglow J. Janča, A. Tálský	59
0131	Decay of plasma clusters accelerated by a coaxial gun P. Kubeš, J. Hruška, J. Bacilek	61

Electron and ion transport phenomena

0132	The mobilities of diatomic rare gas ions in their parent gases H. Helm, M.T. Elford	63
0133	Transverse diffusion coefficients for ions drifting in gases with which resonant charge exchange occurs R.N. Varney, H. Helm, W. Lindinger	65
0134	Anomalous transport of ions of weakly ionized plasma in a high frequency field A.K. Grigoriady, O.I. Fisun	67
0135	Density dependence of electron drift velocities in compressed argon and ammonia N.L. Allen, W.A. Barraclough	69
0136	On the interaction of thermal electrons with molecules of polyatomic gases W.H. Roznerski	71

Ion-molecule reactions, chemical processes

0137	Reactive and dissociative scattering in the He + H ₂ ⁺ system. Crossed-beam and trajectory studies L. Zülicke, U. Havemann, F. Schneider, Ch. Zuhrt, V. Pacák, Z. Herman	73
0138	Elementary processes in dissociative polyatomic molecules excitation by electron impact S.M. Kishko, I.V. Sushanin, V.I. Korol	75

0139	Non-equilibrium kinetics of homogeneous bimolecular plasma-chemical reactions W. Stiller	77
0140	Investigation of ion-molecule-reactions in a drift tube with a hollow cathode ion source W. Lindinger, E. Alge, H. Störi, R.N. Varney	79
0141	The rate constant for the conversion of atomic ions to molecular ions in the parent gases B.M. Smirnov	81
0142	Chemical processes in a CO ₂ -glow discharge L.S. Polak, D.I. Slovetsky, A.S. Sokolov, T.V. Fedoseyeva	83
0143	Mass spectrometric investigations of ion formation in a glow discharge of methane H. Drost, H.-D. Klotz, U. Timm	85
0144	The role of N ₂ dissociation in magnesium plasma nitridation L. Láska, J. Kodymová, V. Krejčí	87
0145	Stationary states of a non-thermal oxygen plasma model H. Kastelewicz, P. Bachmann	89
0146	Numerical simulation of a silent discharge in oxygen V.I. Gebalov, V.G. Samoylovich, Y.V. Filippov	91
0147	Modification of surface reactivity of SiO ₂ by plasma treatment H.-J. Tiller, D. Berg, I. Kopka, B. Rönnefarth	93
0148	Influence of plasma interaction on clusters formation in silicon A. Grigonis, A. Batulevičius, S. Bružas, L. Pranėvičius	95
02	DIAGNOSTIC METHODS	
	<u>Probe methods</u>	
0201	Comparison of classical and numerical evaluation of Langmuir probe characteristics at low plasma densities B. Nuñez, G. Peter	97
0202	Characteristics of a negatively biased cylindrical probe at medium pressure T. Kopczyński	99
0203	Electron energy distribution measurements taking into account the ion current second derivative V.A. Dovzhenko, A.P. Ershov, G.S. Solntzev	101

0204	Probe measurements of the electron energy distribution function in oxygen plasma B. Králiková, J. Skála	103
0205	Approximate formulae for electron concentration and temperature Z. Wroński, D. Stachórski	105
0206	Electric probes in a chemically reacting arc heated gas flow. Fluctuations of the ion saturation current C. Keszei, A. Ovsyannikov, L. Polak, U. Pihlak	107
0207	Probe diagnostics of a low temperature plasma in a magnetic field F.G. Baksht, G.A. Djuzhev, S.M. Shkolnik, V.G. Yuriev	109
0208	Peculiarities of the application of the three probes method for the measurement of the parameters of a UHF discharge plasma G.S. Solntzev, P.P. Melnichenko, V.A. Dovzhenco, S.I. Kusnetsov	111
0209	Theory of electrical probes for dense plasmas of a non-self-maintained discharge K.N. Ulyanov	113
0210	Probe diagnostics of a high pressure non-stationary plasma K.P. Novikova, K.N. Ulyanov	115
0211	Double probe measurements of electron concentration and electron temperature in afterglows W. Wieme, G. van den Berge	117
0212	Electron energy distribution function in the cooled nitrogen discharge plasma V. Hrachová-Řezáčová, S. Klagge	119

Spectroscopic methods

0213	Stark broadening of NeII lines M. Platiša, N. Konjević	121
0214	Stark parameters of rhubidium resonance lines I. Lakicević, J. Puric, J. Labat	123
0215	A comparison of experimental and theoretical H _α Stark profiles at low electron densities H. Ehrich, D.E. Kelleher	125
0216	Determination of the transition probability and Stark constant for the 546. 1 nm Hg line J.J. Damelincourt, D. Karabourniotis, L. Scoarnec, P. Herbet	127

0217	Profile of the He I 4471 Å line at high electron densities in helium and helium-neon plasmas C. Fleurier, J. Chapelle	129
0218	Curvilinear trajectories and Stark broadening of hydrogen lines M.S. Dimitrijević, P. Grujić	131
0219	Contribution of proton perturbers to the wings of Lyman- α Le Quang Rang, D. Voslamber	133
0220	On the red shifts of hydrogen spectral lines in dense plasmas J. Halenka, J. Musielok	135
0221	The influence of the single mode dye laser intensity on the sodium absorption D-lines F.C.M. Coolen, N. van Schaik, H.L. Hagedoorn	137
0222	Influence of the dye laser intensity on fluorescence measurements of the densities of neon 1 s levels F.C.M. Coolen, N. van Schaik, L.W.G. Steenhuyzen, H.L. Hagedoorn	139
0223	Influence of hyperfine structure upon total absorption of Foigt lineshape (Cesium, $\lambda = 8521 \text{ Å}$) V.A. Sinelshikov	141
0224	Retrieval of fundamental distribution functions for a hydrogen plasma from spectroscopic data A.E. Bulyshev, N.G. Preobrazhensky, A.E. Suvorov	143
0225	Mechanism of excitation of anomalous bright $\lambda 5730 \text{ Å}$ band in discharge potassium plasma Yu. P. Korchevoy, V.I. Lukashenko, S.N. Lukashenko	145
0226	Determination of Ar(I) and Ar(II) transition probabilities based on improved branching ratio measurements (comparison with LTE based results) H. Nubbemeyer, B. Wende	147
0227	Determination of partial pressures in halogen metal vapor discharges from the maxima distance of self reversed spectral lines W. Funk, H.-G. Kloss	149
0228	The highly excited level populations in the low density plasma I.L. Beigman	151
0229	Distribution of excited atom concentration near the boundary which absorbs the excitation A.N. Lagarkov, N.A. Medvedeva	153
0230	Emission model for resonance radiation from a duo-plasmatron discharge M. Brück, R. Brückmüller	155

0231	Density measurement of sputtered metals by fluorescence spectroscopy D. Ruebüldt, A. Elbern	157
0232	Formulation of diagnostics problems for short wavelength probing of a plasma cylinder E.A. Tishchenko	159
0233	Measurement of the complex transmission coefficient in submillimeter diagnostics of the moving plasma filament by the converging wave beam E.A. Tishchenko, V.V. Zav'yalov, V.G. Zatsepin, V.B. Lazarev	161
0234	Spectroscopic analysis of multi-component inhomogeneous plasmas S. Prohoroff	163
0235	The polarization of reabsorbed radiation from low density plasma in a magnetic field V.I. Babanin, L.A. Bakaleinikov, E.P. Busygin, V.G. Grigoryants, A.Ya. Ender	165
0236	Polarization of optical radiation from beam-plasma discharge E.P. Busygin, V.G. Grigoryants, S.I. Vlasenko, V.P. Popovich	167
0237	Temperature diagnostics in seeded plasmas S.Y. Wang, D.M. Benenson	169
0238	Population of argon ion energy levels in the plasma in crossed electric and magnetic fields V.I. Miljevic	171
0239	Interferometric measurement of the electron density in an arc plasma V. Helbig, B. Lewandowski, D. Vukicevic	173
0240	Modified laser interferometry to measure the electron density profile of a plasma column /1/ A. Yasuda, S. Takeda	175
0241	Laser interferometry in pulsed plasmas of high density D. Djordjevic, K. Guenther, R. Radtke, R. Ulbricht	177
0242	Radial glow and temperature distribution of laser obtained microplasma in air and in argon media G. Dimitrov, V. Gagov, S. Aslam	179
0243	Measurements of a thermal ion spectrum by 90°-scattering using a cw-CO ₂ -laser H. Hailer	181
0244	Scattering at 10,6 μ from thermal plasma fluctuations to determine the ion temperature using light mixing E. Holzhauer	183

0245	Scattering diagnostics of quasistationary plasmas with periodically pulsed lasers in the visible and near UV H.F. Döbele, K. Hirsch	185
0246	Low temperature plasma diagnostics by scattering and resonance fluorescence L.Ya. Margolin, L.N. Pyatnitskii	187
0247	Thomson scattering spectrum recorded with an optical multi-channel analyzer E.P. Barbian, C.J. Barth, D. Oepte	189
0248	Experimental determination of electron densities by 90° collective scattering of CO ₂ laser light D. Rusbüldt, M. Schlott	191
0249	Light scattering as a tool for measuring magnetic field direction in a hot plasma P.G. Carolan	193
0250	Non-equilibrium plasma diagnostics by means of bremsstrahlung continuum on atoms V.M. Batenin, A.A. Belevtzev, V.F. Chinnov, V.S. Zrodnikov	195
0251	The electron-atom-bremsstrahlung standard radiometric source/New measurements and improvements K.H. Krysmanski, S. Pfau, A. Rutscher	197
0252	The measurement of the spatial plasma temperature distribution using the IFP method B. Kruszewska, J. Licki	199
0253	Algorithms for optical diagnostics of plasma layers with complicated geometry and different transmissivity V.V. Pickalov, N.G. Preobrazhensky	201
0254	Spectroscopic plasma diagnostics using the on-line computer system B. Kruszewska, J. Lesinski	203
0255	Abel inversion by means of orthogonal polynomials S. Ugniewski	205
 <u>Miscellaneous methods</u>		
0256	Analysis of microwave scattering from a plasma column using the first born approximation S.E. Rosenthal, F.W. Crawford	207
0257	A method for the evaluation of density fluctuations from interferometric measurements S. Corti, F. de Luca, G. Grossi	209

0258	Investigations on the use of a semi-spherical antenna as a microwave probe for plasma diagnostics T.A. Gryaznova, K.S. Karplyuk, E.G. Filonenko, I.P. Shashurin	211
0259	Time-of-flight analysis of neutrals from a plasma as a diagnostic for the ion velocity distribution P.G.A. Theuws, H.C.W. Beijerinck, P.J. Uitterhoeve, D.C. Schram, N.F. Verster	213
0260	Measuring profiles of residual gas density and elec- trical potential in the plasma V.N. Botcharov, A.M. Kudryavtsev, A.F. Sorokin, Yu.N. Ulyanov	215
0261	Miniature probes for the measurement of enthalpy in plasma chemical processes H. Hoffmann	217
0262	Determination of wall charges in external electrode gas discharges E. Kindel, R. Arndt	219
0263	Measurements of mercury vapour pressure in indium amalgam systems G. Schaal, B. Blank	221

03 LOW PRESSURE DISCHARGES

Positive columns

0301	A system of differential equations, and the pressure, particle and energy balance for the positive column at low pressures and high degrees of ionization H.-B. Valentini	223
0302	The positive column at high degrees of ionization under free-fall and ambipolar diffusion conditions H.-B. Valentini	225
0303	HeI and HeII excited state population densities in non- LTE helium plasmas P.K. Ghosh, M.S. Hegde	227
0304	Optical and electrical parameters of the mercury low pressure discharge under the pulse modulation Ju.M. Kagan, V.M. Milenin, N.A. Timofeev	229
0305	Investigation of a constricted glow discharge in helium M.P. Gryaznevich, B.P. Lavrov	231
0306	Effect of boundary conditions on radial transport of metastable atoms in a positive column I. Košinár, V. Martišovitš, Š. Veis	233
0307	Investigation about excited atoms in a krypton dc glow discharge H. Scheibner	235

0308	The radial distribution of metastable atoms in the positive column of low current helium discharges J.F. Behnke, H. Deutsch, S. Pfau	237
0309	The radial distribution of metastable atoms in the positive column of a neon discharge in a longitudinal magnetic field H. Deutsch, S. Pfau, S. Klagge	239
0310	Measurement of the radial electron temperature profile in a medium pressure neon discharge with the aid of the electron-atom-bremesstrahlung continuum R.M.M. Smits, M. Prins	241
0311	The existence of the limit current and several states of a stationary discharge under diffuse-recombination conditions L.S. Wagner, Ju.B. Golubowsky, R.I. Ljagustschenko	243
0312	Radial distribution of the vibration temperature $T_v(x^1\Sigma_g^+)$ in the positive column of a N_2 pressure dc discharge J.F. Behnke, P. Grigull	245
0313	The positive column of glow discharges in H_2 -H mixtures P. Michel, S. Pfau, A. Rutscher, R. Winkler	247
0314	Kinetics of atomic oxygen in a flow tube downstream of a dc discharge H. Sabadil, E. Zielke	249
0315	On the radial distribution of atoms in an oxygen glow discharge V. Hermoch	251
0316	Atomic species in the low pressure discharge plasma in oxygen P. Kocian, J.M. Mayor	253
0317	The application of the B-invariant transformation theory for the discharge in a helium-cesium mixture K.D. Asvadurov, I.A. Vasilieva	255
0318	Energy balance of the low pressure cadmium-argon discharge column G. Babucke, K. Wojaczek	257
0319	A study of the ionization and excitation processes in the glow discharge in N_2 - H_2 mixtures L.S. Polak, D.I. Slovetsky, A.D. Urbas	259
0320	A cataphoresis in a pulse dc glow discharge J. Trnovec, P. Lukáč	261
0321	The investigation of the radial cataphoresis in a He-Na mixture A.M. Devyatov, E.A. Kralkina, A.V. Kuralova, L.M. Volkova	263

0322	The influence of the metal cover on glow discharge parameters J. Šafraňková	265
0323	On the stratification of the positive column of an audio frequency glow discharge Cs. Grosu, S. Talaşman, F. Stamate, M. Andreeescu	267
0324	The perturbation of the gas discharge by the longitudinal turbulent flow. Hydrodynamic contraction G.A. Galechian, Y.I. Grigorian, S.I. Petrosian	269
<u>Ionization waves and instabilities</u>		
0325	Ionization instability of a semi-self maintained discharge in molecular gases K.N. Ulyanov, I.N. Shemaeva	271
0326	Ionization instability of an electromagnetic wave V.B. Gil'denburg, A.V. Kim	273
0327	Stationary stratified discharge in plane wave fields V.B. Gil'denburg, V.E. Semyonov	275
0328	On the theory of standing striations P.S. Landa, N.A. Miskinova, Yu.V. Ponomaryov	277
0329	Excitation and asynchronous quenching of moving striations in a finite positive column P.S. Landa, Yu.V. Ponomaryov	279
0330	Column head oscillations - an ionization-diffusion instability L. Biborosch, M. Sanduloviciu	281
0331	Dynamics of striations I. Grabec, S. Mikac	283
0332	The phase instability and disintegration of an ionization wave J. Krása, V. Peřina, L. Pekárek	285
0333	Experimental study of the properties of turbulent (irregular) ionization waves in a Ne glow discharge using correlation technique J. Krása, V. Peřina, L. Rothhardt	287
0334	Striations in the low pressure discharge CO laser J. Krása, M. Novák, M.Z. Novgorodov, L. Rothhardt	289
0335	Study of the electron density and light intensity variations in the irregular ionization waves Z. Němeček	291

0336	The influence of an ordinary acoustic wave on a forward ionization wave of the F ⁻ type M. Chvojka, L. Pekárek	293
0337	Ionization waves (striations) at the vicinity of the critical magnetic field B _c in a magnetized positive column S. Imazu, K. Miura, T. Takamatsu, H. Shindo, T. Maruyama	295
0338	Moving striations in a longitudinal homogeneous magnetic field A.A. Saitsev, W.W. Ilinsky, G.W. Bragina	297
 <u>Negative glows, hollow cathode discharges, electrode phenomena</u>		
0339	Model for the cathode region of a glow discharge G. Fournier, D. Pigache	299
0340	On the electric charging time of a metallic electrode in contact with a negative glow plasma M. Toma, M. Sanduloviciu	301
0341	Calculations and measurements of the intensity of the line emission of glow discharge plasmas H. Falk	303
0342	On the mechanism of Ba and Sr ions formation in a hollow cathode discharge A.M. Devyatov, V.Kh. Fazlaev, M.A. Mal'kov, L.M. Volkova	305
0343	Sputtering in a hollow cathode laser discharge F.J. de Hoog, G.J. Collins	307
0344	Fast electrons in hollow cathode plasmas F. Handle, M. Pahl, P. Holzmann, F. Howorka, W. Lindinger	309
0345	Angular distribution of fast electrons from a hollow cathode discharge P. Holzmann, M. Pahl, W. Lindinger	311
0346	Studies on pulsed hollow cathode lamps J. Tilch	313
0347	The transition from the anomalous glow discharge to the nozzle hollow cathode discharge H.-E. Wagner	315
0348	A new form of the hollow cathode glow discharge with the gas flow O.A. Kushlyansky, A.I. Nastyukha	317

0349	Arc theory for a hollow cathode discharge in a fully ionized dense plasma F.G. Baksht, A.B. Rybakov	319
0350	Electron energy distribution and velocity of ionization in a hollow cathode arc discharge S.P. Reshonov	321
0351	A collisional radiation model for the argon neutral system J.J.A.M. van der Mullen, B. van der Sijde, B.F.M. Pots, D.C. Schram	323
0352	Impedance characteristic of a hollow cathode arc discharge A. Lunk	325
0353	Current distribution of a hollow cathode arc discharge K.H. Groh, S.E. Walther	327
0354	Critical condition of the low pressure discharge with hollow cathode N.N. Rykalin, A.V. Nikolaev, A.P. Borzov	329

High frequency discharges

0355	Energy transfer from dc and UHF fields to plasma electrons Yu.A. Ivanov, Yu.A. Lebedev, L.S. Polak	331
0356	Electron energy distribution function in the plasma of a high frequency discharge S.D. Wagner, B.K. Ignatyev, L.D. Tsendin	333
0357	Double probe measurements in a HF discharge C. Wilke	335
0358	Electron temperatures in low pressure RF discharges B. Lenz, R.J. Walther	337
0359	The skin effect in an RF discharge plasma with and without an external magnetic field J. Freisinger, B. Lenz, R.J. Walther	339
0360	Phase shift in anomalous skin effect H. Schneider, B. Joye	341
0361	Experimental study of the rectifying properties of a HF discharge A.A. Kuzovnikov, V.L. Kovalevskii, V.P. Savinov, V.G. Yakunin	343
0362	Distribution of an alternating electric field in the low pressure HF discharge placed in a magnetic field V.G. Naumovets, L.L. Pasechnik, V.V. Yagola	345

0363	Investigation of space sheaths at electrodes in an RF discharge V.A. Godyak, O.A. Popov, A.H. Hanna	347
0364	Circuit properties of a new RF plasma source/surfatron/ operating at low pressure M. Moisan, Z. Zakrzewski	349

Townsend discharges, breakdown and pulsed discharges

0365	Experimental electron energy distribution functions in Townsend discharges in xenon T. Makabe, Y. Ogawa, T. Goto, T. Mori	351
0366	Field emission by ion clusters of higher order in helium J.G.A. Hölscher	353
0367	Monte Carlo calculations of microwave breakdown fields in neon H.T. Saelee	355
0368	Breakdown of a discharge in dependence on the nature of the tube wall D. Grosu, St. Bara, C. Bruma	357
0369	Breakdown in Ne-HCl and Ne-CH ₄ mixtures V. Henč-Bartolíč, D. Soldo	359
0370	Minimum breakdown potentials in E x B fields G.R. Gurumurthy, G.R. Govinda Raju	361
0371	The gas breakdown of a tokamak discharge G. Waidmann	363
0372	Electron avalanche current pulse measurements in non-uniform fields I.W. McAllister	365
0373	Electron avalanche multiplication in gas mixtures in an electric field of cylindrical geometry K. Jeleň	367

Plasma displays

0374	Plasma displays H. Uchiike, Y. Fukushima	369
0375	Plasma display discharges and similarity relations W. Stern	371
0376	Investigations of ac discharges in cells with glass covered electrodes R.J. Zahn, S. Mueller	373

- 0377 The plasma production by pulse discharge development in the glass cell 375
 Yu.I. Chutov, T.E. Remnyova, O.V. Korolyuk

Plasma chemistry

- 0378 Some special features of the carbon dioxide dissociation process in a glow diecharge with hollow cathode 377
 J.P. Butylkin, A.A. Grinenko, L.S. Polak, D.I. Slovetsky
- 0379 Investigation of dissociation processes of some molecules in the hollow cathode glow discharge plasma 379
 A.S. Metyel, A.I. Nastuyukha
- 0380 Glow polymerisation of hexamethyldisiloxane in a flow system 381
 M. Schmidt, K.D. Schulz, M. Maass
- 0381 Temperature-dependent growth of thin films on glow discharge electrodes 383
 H.U. Poll
- 0382 Preparation of very thin glow polymer layers 385
 F.-W. Breitbarth, H.-J. Tiller
- 0383 A study of chemical reactions in a plasma generated near the surface of a ferroelectric 387
 A. Szymański

04 HIGH PRESSURE DISCHARGES

Sparks, breakdown, corona discharges

- 0401 Fast heating process of a pulsed discharge channel in air 389
 G. Berger, G. Dastarac, A. Gibert
- 0402 Relation between charge transport and photon intensity accompanying the creep discharge 391
 J.S. Brzosko, A. Konarzewski, A. Wojewódzka, J. Grudziński,
 E. Żukowski, W. Żukowski
- 0403 Discharge generation in gas at the dielectric surface 393
 J.S. Brzosko, E. Żukowski, J. Grudziński, A. Konarzewski,
 A. Wojewódzka
- 0404 The glow (spark) diecharge electrolysis - combustion concept of ball lightning 395
 M.M. Kekez, P. Savic
- 0405 Investigation of the switching characteristic of the high current multi-spark discharge at the high pressure in the gas mixtures SF₆, N₂ and Ar 397
 B.M. Kovaltchuck, V.A. Lavrinovitch, G.A. Mesyats,
 Yu.F. Potalytein, V.B. Toptigin

0406	Breakdown process of a rod to plane air gap under negative impulse voltage M. Akazaki, I. Tsuneyasu	399
0407	The ion density in a high voltage laboratory resulting from repeated operation of an impulse generator N.L. Allen, T.E. Allibone, D. Dring	401
0408	Sparkover of a rod/rod gap stressed with a non-standard impulse voltage: effect of added radiation T.E. Allibone, D. Dring	403
0409	Experimental investigation of the electrical strength recovery in spark gaps after passage of an impulse current R.K. Borisov, E.N. Prokhorov	405
0410	Changes in the initial photoelectric current of spatial growth experiments V.J. Conti, A.W. Williams	407
0411	Electrical breakdown of SF ₆ at high temperatures (< 2300 K) B. Eliasson, E. Schade	409
0412	Anomalous discharge in very long gaps V.P. Fotin	411
0413	Observation of primary and secondary streamer in air gaps under the impulse voltage M. Hayashi, H. Isa	413
0414	The delayed streamer and the leader formation in atmospheric air under the impulse voltage H. Isa, M. Hayashi	415
0415	Breakdown of air, N, Ar in superimposed dc and HF electric fields V. Kapicka, K. Kapoun, A. Petrakiev	417
0416	Impulse discharge characteristics of long, non-uniform field gaps in SF ₆ /air mixtures A. Kurimoto, A. Aked, D.J. Tedford	419
0417	Corona and breakdown in a supersonic air stream B.R. Lynch, R.C. Davidson, O. Farish	421
0418	The breakdown in SF ₆ as a stochastic process W. Mosch, W. Hauschild	423
0419	An estimation for the minimum breakdown voltage and breakdown time of long air gaps W. Mosch, E. Lemke, V.P. Larionov, E.S. Kolečizky	425
0420	An estimation of the voltage-time characteristic of long rod plane gaps in air at positive switching impulse voltages W. Mosch, E. Lemke, V.P. Larionov, E.S. Kolečizky	427

0421	Electrode roughness and compressed SF ₆ - a generalised approach I.C. Somerville, D.J. Tedford, B.H. Crichton	429
0422	On extreme low value fractiles in breakdown distributions in compressed SF ₆ S. Vibholm, A. Pedersen, P. Thyregod	431
0423	Influence of measuring procedure on the determination of breakdown probabilities A.E. Vlastos, S. Rusck	433
0424	Onset voltage of corona in bipolar fields M. Abdel-Salam, M. Khalifa	435
0425	Investigation of HF point discharge formation by electron-optical technique M. Aints, A. Haljaaste, K. Kudu	437
0426	Discharge zones in air gaps of varying configurations H. Anis, A. El-Zein	439
0427	Study of predischARGE phenomena in needle to plane electrode geometry I. Arima, T. Watanabe	441
0428	Corona discharge characteristics in SF ₆ I.M. Bortnik	443
0429	The negative corona discharge in an air stream R.C. Davidson, O. Farish	445
0430	Continuous current in the positive corona in air: Townsend was right! M.N. Hirsh, M. Goldman	447
0431	Properties of corona discharges from ice points I.B. Jordan, T. Le-Huu	449
0432	Development of dc corona pulses at atmospheric pressure H. Korge, K. Kudu, M. Laan	451
0433	The corona discharge ignition characteristics in air at high frequency voltage V.P. Larionov, T.N. Tarasova	453
0434	On the current oscillations and role of excited atoms in the mechanism of the high pressure corona discharge V.D. Peskov	455
0435	Computer simulation of streamer propagation at breakdown in xenon A.V. Rodin, V.P. Solyar, Yu.K. Zemtsov	457
0436	Secondary electron emission due to negative corona discharges R. Saint-Arnaud, A. Goldman	459