

INDEX

- Abeles, B., 36, 180, 297
Abramowitz, M., 150
Absorbing efficiency, 315
Absorption, 17, 33, 104, 137, 192,
275, 319, 340, 346
Activation energy, 32
Admittance model, 349
Aebischer, H., 151
Afsar, M. N., 378, 384
Agglomeration, 281
Aharoni, S. W., 299
Aharony, A., 301
Albada, M. P., 229
Albedo, 183, 203, 211, 215, 218
Alexander, S., 301
Alfano, R. R., 230
Altschuler, H. M., 381
Ambach, W., 149
Ancona, C., 384
Antennas, 351, 364, 377
Apparao, R. T., 378
Apparent permittivity, 104,
131-132, 134, 135, 145
Araneta, J. C., 39
Asmussen, J., 40
Athavale, K., 268
Athey, T. W., 382
Aussudre, S., 345, 380, 383

Böttcher, C. J. F., 3, 9, 36, 59,
99, 149, 178, 233, 267, 297
Backscattering, 139, 220, 224
Badot, J.-C., 313
Baker, D. E., 349, 383
Balta-Calleja, F. J., 299
Banhegyi, G., 269
Barabannenkov, Y. N., 229
Barber, P. W., 343

Barker, J. A., 227, 343
Barlow, H. M., 298
Barriol, J., 97, 100
Barry, W., 347, 381
Bartnikas, R., 32, 39
Battan, L. J., 148, 178
Bauhofer, W., 298, 300
Baxter, R. J., 227
Beck-Montgomery, S. R., 269
Beer, A., 268
Belhadj Tahar, N. E., 348, 382
Bender, C. M., 148
Bergman, D. J., 301, 379
Bertaud, A. J., 313
Besieris, I. M., 227
Besson, J. Cl. E., 382
Birchak, J. R., 150, 268
Bisceglia, B., 380
Blackman, D., 381
Blake, R. L., 270
Bloch wall, 174
Blossey, D. F., 36, 100, 150, 267
Bluhm, D. D., 269-270
Blythe, A. R., 297
Boeffel, C., 297
Boese, D., 297
Bohmer, B., 298
Bohren, C. F., 148, 151, 178, 328,
330, 332, 343
Boise, D., 151
Boltzmann's constant, 208
Bomar, S. H., 384
Bond, J. W., 385
Bordewijk, P., 268, 297
Born, M., 147, 177
Borom, M. P., 313
Bosisio, R. G., 39
Bosman, A. J., 38
Bossett, H. L., 384

- Bottger, H., 300
 Bottreau, A. M., 377
 Boyne, H., 229
 Brightness temperature, 210-218
 Bringi, V. N., 226, 344
 Brodwin, M. E., 38-39, 303, 313
 Brooks, M. H., 313
 Brown, W. F., Jr., 9, 37, 65, 100
 Bruch, J. C., 312
 Bruggeman, 4, 8-11, 37, 50, 54,
 67, 70, 82, 88, 91, 93, 95,
 134, 178, 233, 269, 300
 Brunier, P., 345, 380, 383
 Bryksin, V. V., 300
 Buckley, S. N., 380
 Bueche, F., 299
 Burda, L., 300
 Buris, N. E., 378
 Burrige, R., 228
 Bush, G. D., 378
 Button, K. J., 180, 326, 384
 Bykov, U. V., 380
- Calderwood, J. H., 268
 Carpenter, J. A., 380
 Cavity perturbation technique,
 278, 347
 Chýlek, P., 151
 Chhabra, M., 383
 Chabinsky, I. J., 313
 Chandrasekhar, S., 226
 Chang, A. T. C., 229
 Chantry, G. W., 384
 Chao, S. H., 348, 382
 Chen, X., 301
 Chenerie, I., 378
 Chung, K. T., 299
 Church, R. H., 40
 Ciliberto, A., 380
 Circular aperture antenna, 352
 Clarke, A. N., 383
 Clarke, P. S., 299
 Clarke, R. N., 383
 Classical mixture theory, 3
- Clausius, R., 99
 Clause, M., 97
 Co-polarization, 364
 Coaxial method, 350, 376
 Coaxial-line measurement, 239
 Cody, G. D., 36, 180, 297
 Cohen, M. H., 150, 179, 270, 298
 Cohen, R. W., 36, 180, 297
 Coherent Potential Approxima-
 tion, 4
 Collin, R. E., 38, 149
 Colloidal system, 42
 Combes, P., 345
 Composite,
 conducting, 281, 284, 296
 conductor-insulator, 286
 dielectric, 322
 ferrite, 315-316, 321, 357
 heterogeneous, 224, 346
 insulator-conductor, 291, 295
 microwave, 304, 316, 319
 wave absorbing, 328
 Compton, R. C., 382
 Conductivity, AC, 275, 283, 294
 Conductivity, DC, 276, 280, 283,
 Convection heat coefficient, 312
 Cooke, W. P., 385
 Coupling factor, 19
 Coutts, M. D., 36, 180, 297
 Critical concentration, 281, 306
 Critical coupling, 19
 Critical frequency, 293, 295
 Cross-polarization, 364
 Cullen, A. C., 298, 357, 385
 Curie temperature, 155, 175
- D'Ambrosio, G., 380
 Dale, T. P., 268
 Dallaire, R., 39
 Daniel, V. V., 271
 De Chanterac, H., 348, 382
 De La Rue, R. E., 98
 De Loor theory, 69
 De Loor, G. P., 3, 36, 69, 72,

- 95, 97, 100, 149, 267
 Debye frequency, 176
 Deltour, R., 299
 Dence, D., 228
 Denoth, A., 149, 151
 Depolarization factor, 8, 27, 29,
 108, 127, 158, 167, 279
 Derrick, G. H., 179
 Dielectric mixture theory, 2, 22
 Diffusion coefficient, 34, 154
 Diffusion, anomalous, 292-296
 Ding, K. H., 227
 Dipole moment, 55, 58, 75, 79, 84,
 102-131, 157, 160, 169
 Discrete phase, 304, 308
 Dispersed phase, 42-48, 50, 55,
 57, 65, 67, 70, 72, 81-90, 93
 Dobson, M. C., 149
 Doviak, R. J., 151
 Doyle, W. T., 163, 179, 379
 Drabovitch, S., 352, 384
 Dube, D. C., 267
 Dubois, J. C., 180, 378
 Dukhin, S. S., 267
 Dyson's equation, 182-185
- Edge diffraction effect, 351
 Edge scattering effect, 353
 Effective
 conductivity, 14, 172-173
 dielectric constant, 218, 220,
 318-320, 337
 electromagnetic properties, 315
 field approximation, 136
 fractional volume, 212
 loss factor, 17, 22, 32
 medium, 3, 8, 9, 11, 133, 137
 188, 286, 295, 329, 346,
 335-339, 341, 350
 nonchiral medium, 338
 permeability, 153-176
 316-321, 346
 permittivity, 10, 29, 102, 127
 140, 144, 153, 167, 170, 176,
 210, 264, 316-321, 338, 346
 propagation constant, 182,
 189-192, 203, 210, 316
 scattering cross section, 11
 viscosity, 154
 wave number, 304, 333-340
 Ehrenfreund, E., 298
 Eichbaum, B. R., 98
 Eichhorn, R. M., 39
 El-Rayes, M. A., 149
 Electrical properties, 295
 Electromagnetic measurement
 technique, 376
 Electromagnetic window, 345
 Ellerbruch, D., 229
 Ellipsoidal reflector, 352-354, 364
 Ellison, W. J., 377
 Emissivity, 23
 Emulsion, 41-74, 83-96
 Energy conservation, 182, 185
 Enhanced absorption, 343
 Enhanced diffusion, 34
 Epstein, B. R., 383
 Equiphasic surface, 353
 Equivalent
 dipole, 6, 102, 110
 resistance, 18
 technique, 354
 Eremeev, A. G., 380
 Evanescent wave, 200
 Evans, S., 383
 Expansion coefficient, 30
 Extinction rate, 202, 210, 218
 Ezquerro, T. A., 273, 299-300, 377
- Fanslow, G. E., 269
 Fante, R. L., 228
 Feed horn, 351, 354, 364, 368, 376
 Feng, S., 269
 Ferrara, G., 380
 Ferromagnetic resonance, 175
 Feshbach, H., 344
 Fessant, A., 348, 382
 Fetters, L. J., 297

- Feynman, R. P., 177
 Field amplification factor, 19
 Field, R. F., 297
 Filling factor, 280
 Fisher equation, 312
 Fisher, R. A., 312, 313
 Fitzer, E., 297
 Foglar, A., 151
 Formula,
 Böttcher, 133, 136, 162,
 253, 257, 261, 264
 Bethe-Salpeter, 182
 Birchak, 133
 Bruggeman, 8, 53, 133, 146,
 163, 329, 337-338
 Bruggeman-Hanai, 50, 234, 253,
 257, 261, 264-266
 Clausius-Mosotti, 30, 47, 56, 59,
 62, 70, 88, 93, 103, 106, 157
 316, 319
 CP, 162-164, 169, 171
 Lichtenecker, 134, 253, 257, 266,
 319
 Looyenga, 65, 133, 162
 Lorentz-Lorentz, 47, 106, 157
 Maxwell-Garnett, 4, 8, 9, 11,
 112, 132, 136, 143, 148, 157
 161, 171, 176, 316, 319, 329,
 337
 Onsager, 59, 61, 71,
 103, 107, 108
 Polder-van Santen, 4, 9, 10, 37,
 132, 149, 162, 169, 178
 Rayleigh mixing 112, 117, 172
 Sen, Scala, and Cohen, 133, 163
 magnetic Maxwell-Garnett
 magnetic Rayleigh mixing, 157
 Foster, K. R., 383
 Fourier-Lamer, A., 348, 382
 Fractal nature, 294
 Franck, V., 10, 37
 Frank, W., 297
 Free-space characterization, 376
 Fricke, H., 98
 Frisch, V., 227
 Frolich, H., 100
 Frost, H. M., 39
 Fugita, 93
 Fung, A. K., 151, 226, 228
 Funk, T. B., 378

 Gaines, J. R., 299, 301
 Gamma size distribution, 218-220
 Ganne, J. P., 180, 378
 Garard, R., 40
 Gardiol, F. E., 382
 Gardner, C., 268
 Gardner, L. G., 150
 Garito, A. F., 298
 Garland, J., 298
 Gaussian beam law, 352
 Gefen, Y., 301
 General theory of Reynolds-Hugh,
 67
 Geometrical parameters, 360
 Gex-Faby, M., 382
 Ghamen, H., 381
 Ghanen, 347
 Ghodgaonkar, D. K., 384
 Gibson, C., 34, 39
 Gieraltowski, J., 348, 382
 Gittleman, J. I., 299
 Gladstone, J. H., 268
 Glatzhofer, D. T., 298
 Goldsmith, P. F., 384
 Goto, R., 97
 Grace, W. R., 383
 Grant, J. P., 383
 Greffe, J. L., 41, 98, 100, 268
 Grosse, C., 41, 96, 268
 Guest, A. J., 299
 Guillien, R., 97
 Gunning, W. J., 298
 Gyorffy, B. L., 132, 228

 Hall, W. F., 326
 Hallikainen, M. T., 149, 151
 Hanai, T., 51, 97, 99, 233, 269

- Hansman, R. J., 140, 151
 Hanson, J. O., 378
 Harrington, R. F., 148
 Harris, D. R., 299
 Hartemann, P., 179
 Hashin, Z., 161, 178
 Hasted, J. B., 148, 180
 Havinga, E. E., 38
 Heat conduction, 23, 154
 Heat diffusion equation, 304, 312
 Heeger, A. J., 298, 300
 Henderson, D., 227, 343
 Heterogeneous structure, 346
 High-temperature dielectric properties, 26
 Higher-order modes, 350
 Higuchi, W. I., 49, 71, 88, 92, 99
 Hipp, J. E., 268
 Hipp, J. W., 150
 Ho, W. W., 31, 38, 349, 379
 Hodgetts, T. E., 383
 Hopping, 294
 Hotta, S., 300
 Hough, J. M., 99, 267
 Huffman, D. R., 151
 Hundley, M. F., 301

 Imry, Y., 301
 Incident field coefficient, 333
 Inclusion
 conductive, 173
 confocal ellipsoidal, 24
 continuous, 7
 discrete, 7, 102, 135, 303
 ellipsoidal, 8, 11, 29, 108,
 131, 158, 162, 167
 ice, 142
 lossy, 173
 magnetic, 174
 mixture, 35
 non-spherical, 8
 nonhomogeneous, 169
 phase, 304, 316, 319, 321, 337
 polarizable, 3
 random scattering, 11
 spherical and cylindrical, 8
 spherical, 9, 102, 132, 156, 161
 Inganas, O., 300
 Interferometric technique, 347
 Interparticle conduction, 290, 292
 Intrinsic
 absorption mechanism, 327
 loss mechanism, 309-310
 Inui, T., 326
 Inverse methods, 350
 Ionization, 35
 Ishii, T. K., 40
 Ishimaru, A., 226, 229, 344
 Iskandar, M. F., 298
 Isotalo, H., 300
 Issac, E., 378

 Jackson, J. D., 148, 177
 Jacobs, I. S., 378, 379
 Jaggard, D. L., 328, 343
 Janney, M. A., 39
 Jansen, A. G. M., 299
 Jantzen, J., 299
 Jenkins, S., 383
 Jeszka, J. K., 299
 Johnson, D. L., 39, 313
 Jones, D. S., 177
 Jones, W. T., 382
 Joule heating effect, 34

 K-band, 239
 Kapitza, H., 297
 Kawamoto, H., 297
 Kellogg, O. D., 148, 177
 Kent, M., 234, 269
 Khanna, S. K., 298
 Khebir, A., 337, 343
 Kimrey, H. D., 39
 Kirkpatrick, S., 297
 Kirkwood, J. G., 10, 38, 77, 100
 Kittel, C., 298
 Klein, A., 234, 269

- Kleiner, R., 38
Koher, W. F., 227
Kohler, W. E., 149, 178, 228
Kohnt, P. M., 301
Koizuma, N., 97
Kong, J. A., 36, 147, 177, 225
228, 271, 344, 355, 384
Korneenko, I. A., 10, 37
Korringa, J., 228
Kraszewski, A. W., 36, 268,
379, 383
Kremer, F., 273, 297, 300, 377
Kriegsmann, G. E., 39
Kryszewski, M., 297, 299
Kubo, M., 99
Kubo-Nakamura, 51, 63, 71,
88, 91
Kuga, Y., 226, 229
Kujita, F., 97
Kulinski, S., 268
Kusy, R. P., 299
- LaChapelle, E. R., 151
Laakso, J., 300
Labeyrie, M., 179, 378
Ladder approximation, 182, 186,
194, 222, 224
Lagar'Kov, A. N., 379
Legendijk, A., 230
Laibowitz, R. B., 301
Lakhtakia, A., 36, 303, 313, 328,
340, 343, 378
Lam, J., 163, 179
Landau and Lifshitz, Looyenga
equation, 64, 71, 133, 233,
238, 253, 257, 261, 263
Landau, L. D., 99, 148, 177, 269
Landau-Lifshitz theory, 54, 64,
66, 69, 88, 95
Landauer, R., 300
Lang, R. M., 226
Langendijk, A., 229
Laoc, J., 382
- Large band measurement tech-
nique, 347
Lax, B., 180, 322, 326, 344, 335
Le Gall, H., 382
Le Mehaute, A., 377
Lebowitz, J. L., 227
Lee, M., 313
Lee, S., 299, 301
Legendre polynomials, 114
Legrand, C., 347, 381
Leighton, R. B., 177
Leonard, P. J., 227
Lewin, L., 9, 37, 378
Li, L., 383
Libelo, E. L., 38
Lichtenecker, K., 9, 37, 99, 150,
233, 268
Lichtenecker-Rother, 63, 67, 71,
88, 90
Lifshitz, E. M., 99, 148, 177, 269
Limited frequency band measure-
ment, 347
Lindell, I. V., 101, 147, 153, 177,
179, 377
Lindroth, D. P., 270
Lindsey, S. E., 300
Liu, S. H., 297
Loidl, A., 298
Looyenga, H., 4, 8, 37, 64, 67, 88,
99, 133, 150, 178, 233, 269
Lopez, M., 345, 380, 383-384
Lord Rayleigh, 36, 98
Lorentz field, 57, 107
Lorentz, H. A., 58, 99
Lorentz, L., 99
- Loss
after-effect, 173
conduction, 14, 23, 32, 35, 173
dielectric, 11, 32, 232, 263, 309
eddy-current, 173
hysteresis, 173
insertion, 327
magnetic, 171, 175
Maxwell-Wagner, 173, 263
mixture, 172

- scattering, 104, 137, 175
 tangent, 232, 372
 Lowry, H. H., 268
 Lunkenheimer, P., 298
 Lyon, F., 299
- Mätzler, Ch., 132, 149, 151
 Ma, Y., 36, 303, 313, 315, 326,
 344, 378
 MacDonald, A., 381
 MacLachlan, D. S., 379
 Maglione, M., 298
 Magnetic dipole moment, 156,
 166, 174
 Magnetic percolation, 171
 Mandt, C. E., 230
 Manoury, M., 38
 Manson, J. A., 296
 Marcuse, D., 384
 Marcuvitz, N., 348, 380
 Maret, G., 229
 Marquardt, P., 379
 Marshall-Palmer raindrop distri-
 bution, 137
 Marslandand, T. P., 383
 Martinez-Salazar, J., 299
 Massa, R., 380
 Material
- ceramic, 372
 - chiral, 328, 340, 349, 377
 - composite, 102, 153, 175,
 182, 221, 280, 315, 329,
 345, 349, 354, 372, 376,
 - dielectric, 232, 276, 347,
 349, 354, 372
 - errimagnetic, 155
 - ferromagnetic, 170, 322
 - granular, 346
 - heterogeneous, 35, 156, 163, 173
 - high loss, 360
 - homogeneous, 347, 354
 - inclusion, 316, 319, 321, 328
 - lossy, 327, 360
 - magnetic, 173-174
 - nonmagnetic, 279, 305, 321, 337
 - particulate, 236, 239, 252,
 261, 263, 265
 - powdered, 233
 - pulverized, 232
 - radome, 349, 351
 - transparent, 360
- Mathews, I., 39
 Matrix formulation, 355, 362
 Matsumura, S., 93, 97
 Matuszewski, M., 268
 Matzer, C., 229
 Maurens, M., 345
 Maxwell, 4, 8, 23, 36
 Maxwell-Wegner effect, 175
 McDonald, A. A., 39
 McKenzie, D. R., 179
 McPhedran, R. C., 163, 179
 Mechanical compaction, 306
 Medalia, A. I., 299
 Medium,
- absorbing, 345
 - discrete random, 221, 346
 - heterogeneous, 105, 135, 153,
 316, 346
 - magnetically heterogeneous, 176
 - non-discrete random, 11
 - non-dispersive, 14
 - nonchiral, 328, 337-339
 - nontenuous, 182
 - random, 2, 8, 29, 102, 127, 162,
 182, 186, 188, 195, 303,
 316, 333, 336
- Meek, T. T., 22, 34, 303, 313
 Mercier, A., 313
 Meredith, R. E., 98, 150, 163, 179
 Method, free-space, 349-350, 372
 Method, reflection-transmission,
 350, 362, 376
 Mickelson, A. R., 343
 Micro emulsion, 42
 Microwave absorption attenua-
 tion, 140
 Microwave annealing, 34
 Microwave feed horn, 351

- Microwave heating, 2, 35
 Mie solution, 333
 Miles, P. A., 381
 Miller, S. A., 378
 Mills, R. L., 228
 Milton, G. W., 379
 Mirotznik, M., 383
 Misra, D. K., 383
 Mitchell, A. R., 312-313
 Mixing formula, 132-134, 136,
 145, 154, 161, 168, 172
 175, 210, 212, 233
 Mixing rules, 146, 161, 175
 Mixture, 158
 air-particle, 233, 235, 237-238
 apolar-apolar, 57, 68
 carbon-resin, 372
 ceramic, 22
 dielectric, 3, 102, 146,
 153-154, 161-162, 170,
 172-173, 175, 232
 dielectric, 3, 102, 146, 162,
 170, 172, 175, 232
 dilute, 10
 equations, 233, 236, 239,
 252, 257, 261, 264
 heterogeneous, 2, 3, 232
 heterogeneous, 232
 high-permeability contrast, 170
 laws, 346
 low-contrast, 171
 magnetic, 2, 153, 161,
 165, 170, 172
 metal-insulator, 12
 metal-semiconductor, 176
 molecular, 45
 multiphase, 3, 24, 26, 169
 non-dilute, 10-11
 non-random non-dilute, 12
 self similar, 10
 solid, 280
 theory, 3, 17, 20, 23-24,
 27, 29, 35, 304-305
 Mobility, 32
 Mode-matching method, 348
 Modified gamma distribution, 215
 Moebius, K. H., 299
 Mohammadi, M., 300
 Molecular moment, 55
 Monostatic, 368, 377
 Monte Carlo technique, 329, 336
 Montgomery, H. C., 298
 Montgomery, J. P., 385
 Moore, R. L., 151, 228, 347, 381
 Morse, P. M., 331, 344
 Mosig, J. R., 382
 Mosotti, O. F., 98
 Multi-scattering theory, 12
 Multimode resonant system, 18-19
 Multiphase theory, 10
 Multiresonant system, 19-20
 Musil, J., 349, 351-352, 383

 Nakamura, S., 99
 Near field measurement, 351
 Nelson, S. O., 9, 37, 231,
 267, 269, 379
 Network analyzer, 347, 349, 368,
 370
 Newton, J. M., 384
 Nicolson, A. M., 348, 382
 Niesel, W., 8, 37
 Noh, T. W., 299, 301
 Non-invasive measurement, 349
 Nondestructive and contactless
 technique, 377
 Nowak, M., 300
 Nujol-Water system, 43
 Nyfors, E. G., 150
 Nyholm, P., 300

 Ogasawara, N., 326
 Oker-Blom, M., 98
 Onsager, L., 9, 37, 58, 62,
 69, 83, 86, 90, 99, 148
 Onsager-Bottcher, 58, 67, 69,
 72, 83, 88, 91
 Optical activity, 328

- Orientation polarization, 107
 Orliukas, A., 380
 Orszag, S. A., 148
 Orton, J. W., 299
 Osborn Stoner, 109, 158
 Osborn, J. A., 148, 178
 Osterholm, J. E., 300
- Pair-cluster, 11
 Pakula, T., 300
 Palaith, D., 23, 38
 Paletto, J., 97
 Pan, F. P., 151
 Panina, L. V., 379
 Papanicolaou, G. C., 149, 178, 228
 Papas, C. H., 343
 Parallel polarization, 356, 358
 Parneix, J. P., 347, 377, 381
 Parshad, R., 267
 Patchen, H. J., 378
 Pate, M., 175, 180, 378
 Peake, W. H., 228
 Pearce, C. A. R., 96, 98, 100, 148
 Pentecost, J. P., 349, 383
 Percolation, 27, 35, 171
 - cluster, 274
 - phenomenon, 43
 - point, 11
 - theory, 274, 291, 295
 - threshold, 8, 12
 - zone, 350
- Percus-Yevick approximation, 187, 213, 224
 Percus-Yevick equation, 183, 222
 Permittivity measurement, 348
 Perpendicular polarization, 356, 358, 363, 372
 Phenomenological model, 45
 Philip, J. C., 268
 Phromothansy, P., 39
 Pica, A. P., 299
 Pin-point dipole, 49, 72
 Pinnick, R. G., 151
 Pinpoint dipole, 75
- Plans, J., 299
 Plasmas, 14
 Polar dipole, 107
 Polarizability, 3, 7, 29, 50, 55, 60, 75, 79, 102, 107, 116, 122, 146, 157, 169
 - magnetic, 156, 159, 169
- Polarization mechanism, 35
 Porter, R. S., 384
 Post, E. J., 328, 344
 Poularikas, A. D., 151
 Preece, A. W., 383
 Price, J. M., 268
 Priou, A., 300, 345, 354, 377, 378, 380, 383, 384
- Propagation
 - factor, 13
 - loss, 137
 - matrices, 115
- Proper emulsion, 42
 Prost, C., 97
 Purinton, D., 380
- QCA-CP approximation, 182, 186
 Quality factor, 23
 Quasicrystalline approximation
 - with coherent potential, 186, 222, 335
- Quasistatic mixture theory, 23
 Quivy, A., 299
- Rachford, F. J., 378
 Radiation condition, 332, 334
 Radiation heat loss, 24
 Radiative transfer equation, 182, 194, 196, 200, 205, 221
 Radomes, 345
 Rayleigh and Lichteneker equation, 266
 Rayleigh
 - limit, 188
 - model, 71
 - region, 317-318

- theory, 47
- Rayleigh, Lord, 4, 8, 11, 47, 49, 88, 95, 179, 233, 269
- Reactance of the coupling iris, 18
- Rectangular reflection cavity, 278
- Rectangular waveguide measurement, 239
- Redheffer, 381
- Reflectometer, 277, 349
- Reflector, 368
- Reflector, metallic, 351, 364
- Refractive index equation, 253, 257, 263
- Relaxation frequency, 176
- Relaxation process, 275
- Remote sensing, 183, 203, 207 215, 220, 222
- Resin matrix, 345, 346
- Resonance method, 348
- Resonant cavity, 33
- Resonant frequency, 19, 278, 286
- Resonator, 18, 24
- Reutov, E. M., 268
- Reynolds, J. A., 99, 267
- Reynolds-Hugh, 68-72
- Rf synthesizer, 368
- Rivail, J. L., 97
- Robert, P., 147, 177
- Roberts, S., 239, 270
- Rochas, J. F., 38
- Rosenbaum, S., 228
- Ross, G. F., 348, 382
- Rothe, F., 312
- Rother, K., 99, 150, 269
- Roussy, G., 38, 312, 347, 381
- Rughooputh, S. D. D. V., 300
- Ruhe, J., 300
- Runge, I., 135, 150, 163, 179
- Rzepecka, M. A., 298

- S-parameters, 347, 349
- Sabatino, C., 380
- Sabo, A., 299
- Salanek, W. R., 300
- Salsman, J. B., 40
- Samuel, A., 39
- Sand, M., 177
- Sarychev, A. K., 379
- Saturation magnetization, 174
- Savre, W. C., 268
- Scaife, B. K. P., 268
- Scala, C., 150, 179, 270
- Scattered field coefficients, 333
- Scattered potential, 120, 123, 130
- Scatterer,
 - chiral, 340
 - correlated, 182, 188, 194, 222
 - dielectric, 329
 - discrete, 2
 - discrete, 2, 103
 - ellipsoidal, 109, 111, 125
 - lossy, 320
 - low-loss, 343
 - multilayer, 171
 - permeable, 331
 - spherical, 132-133, 162, 336
- Scattering
 - attenuation rate, 183, 219
 - bistatic, 184, 210, 223, 368, 377
 - correlated, 207, 222
 - coupling coefficient, 203
 - domain, 319
 - formula, 136
 - independent, 207, 211, 220
 - measurement, 368, 377
 - multiple, 136, 304-305, 316, 319, 328-329, 331, 333-334, 337, 340
 - potential, 186
 - strong resonance, 341
 - theory, 11, 327
- Schlahhoff, C. W., 270
- Schmidt, M. A., 39
- Seanor, D. A., 297
- Sen, P. N., 150, 179, 269
- Sen-Scala-Cohen model, 134
- Seymour, R. B., 296
- Shadow effect, 351-352
- Shen, L. C., 268

- Sheng, P., 11, 38, 299
 Shin, R. T., 149, 178, 226, 229, 344
 Shiraishi, T., 380
 Shiue, J. C., 229
 Shivola, A., 178
 Shtrikman, S., 178
 Shutko, A. M., 268
 Sichel, E. K., 296, 299
 Sidhu, J. S., 226
 Sihvola, A. H., 3, 7, 10, 36, 101, 147, 150, 153, 177, 179, 271, 377
 Silberglitt, R., 38
 Sils, A., 39, 313, 326
 Sintering, 12, 20, 23, 33, 303, 310
 Skin depth, 279
 Skin effect, 279
 Small-aperture method, 348
 Smychkovich, Y. R., 379
 Snell's law, 204, 207
 Solymer, L., 298
 Song, Y., 299, 301
 Sorokin, A. A., 380
 Soven, P., 228
 Spence, J. E., 228
 Sperling, L. H., 296
 Spot-focusing antenna, 364
 Springett, B. E., 300
 Spyrou, N., 383
 Srivastava, V., 151
 Standing wave ratio, 19
 Stanley, H. E., 297
 Static permittivity, 42
 Stationary principles, 161
 Stauffer, D., 297
 Stegun, I. A., 150
 Stephan, K. D., 384
 Stetson, L. E., 270
 Stokes parameters, 183, 202, 205
 Stoner, E. C., 148, 178
 Straley, J. P., 301
 Street, G. B., 300
 Stroud, D., 37, 151
 Structural phenomena, 346
 Stubb, H., 300
 Stuchly, M. A., 298, 382
 Stuchly, S. S., 298, 380, 383
 Superheterodyne receiver, 368
 Suspension, 42
 Sutton, W. H., 303, 313
 Swor, R. A., 299
 Symm, G. T., 383
 Takiguchi, Y., 230
 Tanabe, E., 348, 382
 Tareev, B., 268
 Taylor, L. S., 10, 37, 149, 178
 Thacher, H. C., 98
 Theobalt, P. R., 384
 Thermal conductivity, 20, 24, 312
 Thermal diffusion, 23
 Thermal expansion coefficient, 30
 Thermosetting resin, 345
 Thiebault, J. M., 38, 313, 347, 381
 Tian, Y. L., 313
 Time domain reflectometry technique, 347
 Tinga and Voss, 303
 Tinga, W. R., 1, 11, 24, 36, 38, 97, 100, 150, 267, 313
 Tiuri, M. E., 150
 Tobias, C. W., 98, 150, 179
 Toutain, 347
 Toutain, S., 381
 Tracz, A., 299-300
 Transfer equation, 207, 210, 223
 Transmission line, 277, 347, 350
 Transport equations, 196, 200
 Transport mechanism, 281
 Tropospheric attenuation, 137
 Tsang, L., 11, 38, 149, 178, 181, 225-230, 331, 344
 Tsolakakis, A. I., 227
 Tu, K. Y., 313
 Tunneling, 281, 294
 Twersky, V., 225
 Two-configuration reflection method, 364, 372, 376

- Two-port TRL calibration
technique, 372
- Ueno, R., 326
- Ulaby, F. T., 149, 151, 228
- Ulanski, J., 298-300
- Unloaded Q factors, 19
- Uoss, W. A. G., 100
- Vaitkus, R., 380
- Valdes, L. B., 298
- Valerien, S. U., 297
- Van Albada, M. P., 230
- Van Beek, L. K. H., 3, 36, 97, 267
- Van Santen, J. H., 10, 37, 149,
178
- Van der Mark, M. B., 230
- Van der Neut, C. A., 349, 383
- Van der Pauw, L. J., 298
- Varadan, V. K., 12, 36, 226, 303,
309, 313, 315, 322, 326, 331
333, 343, 372, 378, 384
- Varadan, V. V., 36, 226, 303, 313,
315, 326, 343, 378, 384
- Variational approach, 104, 130,
146, 161
- Variational method, 127, 130, 146,
170
- Vauborg, J. P., 313
- Victor, J. M., 150, 268
- Vilgis, T. A., 300
- Volk, H., 300
- Von Hippel, A. R., 270, 298, 347,
354, 381
- Voss, W. A. G., 36, 150, 267, 313
- Wachholz, J. J., 313
- Wagner, K. W., 49, 61, 70,
81, 86, 95, 99
- Wait, J. R., 37, 173, 150, 180
- Walsh, D., 298
- Wang, J. J., 385
- Ward, L., 329, 344
- Warham, A. G. P., 383
- Waseda, Y., 227
- Water-terpen system, 43
- Waterman, P. C., 331, 344
- Watters, D. G., 24, 38
- Waveguide method, 33, 347, 362
- Weak fluctuation, 11
- Wegmüller, U., 151
- Wegmueller, J., 229
- Wegner, G., 273, 298, 300, 377
- Weiland, P., 151
- Weiner, O., 37, 45, 89
- Weir, W. B., 347, 381
- Weiss domains, 174
- Well-conducting inclusion, 170
- Wells, T. B., 385
- Wen, B., 227, 229
- Wertheim, M. S., 227
- Wessling, B., 300
- West, R., 227
- Westphal, W. B., 39, 309, 313,
322, 326, 381
- Whitathey, T., 298
- Wiener, O., 4, 8, 46, 64, 67, 88,
90, 98, 148, 178
- Winebrenner, D. P., 227, 229
- Wnek, G. E., 300
- Wojnar, K., 300
- Wolf, P. E., 147, 177, 229
- Wong, D. K., 39
- Wong, K. W., 226
- Wong, S. C., 384
- Woven fabrics, 345
- Wu, C. C. M., 38
- Wudl, F., 300
- Wyder, P., 299
- X-band, 239, 348
- Xu, D., 383
- Yadava, A. S., 267

Yaghjian, A. D., 6, 10, 36, 106,
147
Yeh, C., 343
Yiang, Z., 383
York and Compton, 348
York, R. A., 382
You, K. M., 230
You, T. S., 270, 379

Zacek, F., 383
Zentel, R., 297
Zettl, A., 301
Zhao, J. F., 384
Zhu, P. A., 226
Ziman, J. M., 298
Zipperling and Kessler, 286
Zrnić, D. S., 151
Zuniga, M. A., 228