Author Index

Abuin, E., 65 Allen, N. S., 225, 317 André, J. C., 1 Ausubel, R., 233

Bassanelli, R., 415
Basu, S., 413
Bentley, P., 225, 377
Black, G., 435
Bortolus, P., 579
Bouchy, M., 1
Bourimov, V. N., 49
Breuer, H. D., 329
Brkić, D., 23
Burrows, H. D., 265

Campbell, I. M., 383 Carlsson, B., 321, 421 Carr, R. W., Jr., 69 Cauzzo, G., 409 Chibisov, A. K., 253 Clyne, M. A. A., 201 Coxon, J. A., 337 Curran, A. H., 201

Encina, M. V., 287

Fauré, J., 13 Fischer, E., 345, 447 Forzatti, P., 23 Fouassier, J. P., 13 Fushimi, K., 457

Galiazzo, G., 409, 579 Gans, F., 135 Gauglitz, G., 41 Gennari, G., 409 Gordon, E. B., 401 Guarino, A., 415 Gupta, D., 413 Güsten, H., 33

Heicklen, J., 217, 355 Henri, J. P. L., 69 Huber, J. R., 333

Jackson, W. M., 107 Jayanty, R. K. M., 217 Jones, G., 61, 341 Jones, W. E., 311

Karyakin, A. V., 253 Kelly, N., 355 Kikuchi, K., 457, 469 Kokubun, H., 457, 469 Korenstein, R., 345, 447 Kruger, J., 329

Letokhov, V. S., 49 Levin, G., 119 Levshin, L. V., 253 Lissi, E. A., 65, 287 Liu, M. T. H., 311 Lougnot, D.-J., 13

McAlduff, E. J., 297
McDermid, I. S., 201
McKellar, J. F., 225, 317, 377
Mahaney, M., 333
Masetti, F., 579
Mason, R. S., 383
Meagher, J. F., 355
Moskvin, Yu. L., 401
Muszkat, K. A., 345, 447

Niclause, M., 1

Occhiucci, G., 415

Pasquon, I., 23 Pavlenko, V. S., 401 Pedrosa de Jesus, J. D., 265 Penzhorn, R.-D., 33 Phillips, L. F., 241, 277 Possagno, E., 415

Ramachandran, B. R., 341 Ryabov, E. A., 49

Schurath, U., 33 Sergeeva, G. I., 253 Sharpless, R. L., 435 Simonaitis, R., 217 Slanger, T. G., 435 Szwarc, M., 119

Tal'Roze, V. L., 401 Trifiro, F., 23 Troyanowski, C., 135 Turbini, L. J., 61

Valat, P., 135

Wasson, J. S., 311 Wettermark, G., 321, 421 Wijnen, M. H. J., 233

Yamamoto, S.-A., 469 Yates, P., 91 Yuan, Y. H., 297

Subject Index

Acetylene

photolysis of SO₂ in the presence of, 355

Acridone

excited states of, hydrogen bonding effect of pyridine on the deactivation of, 457

Actinometer

for the determination of quantum yields of photoreactions, azobenzene as a, 41

Aldehyde photo-oxidation

in the liquid phase, initiation of, 1 Aliphatic ketones

the role of the solvent in type II photoreactions from, 287

Aminoanthraquinones

fluorescence and light fastness of, 225 1-Anthrol

deactivation of the excited states of, by aromatic N-heterocycles, 469

Argon fluorescence

trapping and quenching of Ar 106.7 nm fluorescence, 241

Aromatic N-heterocycles

deactivation of the excited states of 1-anthrol, 469

Aromatic thicketones

nature of red emission of, 333

Arrhenius parameters

for the photocleavage of butan-2-one triplets, 65

Atom concentration

versus trapping time for Hg, Na, Cd, N, H, and O resonance lines, 277

Azobenzene

as a convenient actinometer for the determination of quantum yields of photoreactions, 41

Azulene effect

on cis-trans photoisomerization of 3-styrylquinoline, 409

Benzanthrone disperse dyes

light fastness and flash photolysis of, on poly(ethylene terephthalate), 377 Bithioxanthene

reversible photoisomerization and fluorescence of; temperature and spinorbit perturbation effects, 345 Boron oxygen, boron cloride radical formed during I.R. photolysis of BCl₃

by CO₂ laser pulses, kinetics of luminescence of, 49

Butan-2-one triplets

Arrhenius parameters for the photocleavage of, 65

Cadmium photosensitized decomposition of ethane, 297

Cadmium resonance line

trapping time versus atom concentration for, 477

Carbon dioxide photodissociation

extent of and kinetic length of its oxidation chain estimated by means of a CS₂/O₂ laser, 401

Carbon photoisomer

of dixanthylidenes, temperature, external spin-orbit perturbation effects and structure of, 447

Carbonyl triplet lifetime

in the nanosecond range, direct measurements of in a polymer solution, 13

Charge-transfer interaction excited state, notes on, 413

Chemiluminescence

Ogawa band, in NO afterglow, kinetics of, 383

Chlorine monooxide radical

vibrational numbering of the $A^2\Pi_i$ state of, 337

3-Chloro-3-methyldiazirine photolysis of, 311

Cis-trans photoisomerization

of styrylquinoline, azulene effect on, 409

Collisional quenching

of $NO(B^2\Pi_r)_{v'=0}$ produced by the reaction $N(^2D)$ with N_2O , 435

Cometary radicals

photochemical formation of, 107

Copper

metallic, optical properties of, in relation to the photochromic system CuCl(s)-H₂O(1), 321

photochemical disproportionation reaction in the system CuCl(s)-H₂O(1), 421

Cyclic ketones

photochemical ring expansion of, 91

Deactivation

of excited states of acridone, hydrogen bonding effect of pyridine on, 457

of excited states of 1-anthrol by aromatic N-heterocycles, 469

Decomposition

Cd photosensitized, of ethane, 297

1,1-Dichloroethylene

primary reactions in photolysis of, 233

a-Diketones

from ozone-olefin reactions, phosphorescence of, 33

Disproportionation reaction

photochemical, in the system CuCl(s)-H₂O(l), 421

Dixanthylidenes

reversible photochemistry of, 447

Electron cascades

photobreakdown of organic compounds by, 135

Electron-photoejection

in solutions of radical-anions and dianions, 119

Enone photocycloaddition

intramolecular, temperature dependence of triplet state reaction rate and quantum yield for, 341

Ethane

Cd photosensitized decomposition of, 297

1-Ethoxycarbonyl-1H-azepine valence photoisomerization of, 61

Excited state charge-transfer interaction notes on, 413

Excited state energetics

of valence photoisomerization of 1-ethoxycarbonyl-1H-azepine, 61

Flash photolysis

of benzanthrone disperse dyes on poly-(ethylene terephthalate), 377

Flash photolysis study

of photochemical reactions of uranyl ions, 253

of photo-oxidation of some inorganic anions by the uranyl ion, 265

Fluorescence

of aminoanthraquinones, 225

argon 106.7 nm, trapping and quenching of, 241

of bithioxanthene, 345

of hydroxyanthraquinones, 317

Fluorine photoisomer

of dixanthylidenes, temperature, external spin-orbit perturbation effects and structure of, 447

Growth and decay

of resonance fluorescence, numerical studies of, 241, 277

Hydrogen atom abstraction

from propylene by hydroxyl radicals, evidence of in OH generation in the presence of olefins, 69

Hydrogen bonding effect

of pyridine on the deactivation of the excited states of acridone, 457

Hydrogen resonance line

trapping time versus atom concentration for, 277

Hydroxyanthraquinones

fluorescence, phosphorescence and light fastness, 317

Hvdroxvl radicals

evidence of H atom abstraction from propylene by, 69

Kinetic aspects

of dye-sensitized photo-oxygenation, 23 Kinetic length

of oxidation chain of CS₂ photodissociation, 401

Kinetics

of luminescence of BO and BCl radicals formed during I.R. photolysis of BCl₃ by CO₂ laser pulses, 49

of Ogawa band chemiluminescence in the NO afterglow, 383

Inorganic anions

photo-oxidation of by the uranyl ion, flash photolytic study of, 265

Light fastness

of aminoanthraquinones, 225

of benzanthrone disperse dyes on poly-(ethylene terephthalate), 377

of hydroxyanthraquinones, 317

Luminescence

of BO and BCl radicals formed during I.R. photolysis of BCl₃ by CO₂ laser pulses, 49

Mercury resonance line

trapping time versus atom concentration for, 477

Molecular species

spectroscopic detection using a scanning narrow-band dye laser, 201

Naphthyl-pyridyl-ethylenes

direct and anthraquinone sensitized trans→cis photoisomerization of, 479

Nickel(II) complex

quenching of organic singlets and triplets by, 415

Nitric oxide

collisional quenching of $NO(B^2\Pi_r)_{v'=0}$ produced by the reaction of $N(^2D)$ with N_2O , 435

Nitric oxide afterglow

kinetics of Ogawa band luminescence in, 383

Nitrogen

collisional quenching of $NO(B^2\Pi_r)_{\nu'=0}$ produced by the reaction of $N(^2D)$ with N_2O , 435

Nitrogen dioxide

condensed, and NO₂-acetone mixture, photochemistry of, 329

Nitrogen resonance line

trapping time versus atom concentration for, 277

Nitrous oxide

collisional quenching of $NO(B^2\Pi_r)_{v'=0}$ produced by the reaction of $N(^2D)$ with, 435

Optical properties

of metallic copper in relation to the photochromic system CuCl(s)-H₂O(!), 321

Organic compounds

photobreakdown by electron cascades, 135

Organic singlets and triplets quenching of by a Ni(II) complex, 415

Oxidation chain

of CS₂ photodissociation, kinetic length of estimated by means of a CS₂/O₂ laser, 401 Oxygen

reaction of O(¹D) with CCl₂O, CFClO and CF₂O, 217

Oxygen resonance line

trapping time versus atom concentration for, 277

Ozone-olefin reactions

phosphorescence of α-diketones, 33

Phosphorescence

of α -diketones from ozone-olefin reactions, 33

of hydroxy anthraquinones, 317

Photobreakdown

of organic compounds by electron cascades, 135

Photochemical disproportionation reaction in the system CuCl(s)-H₂O(l), 421

Photochemical formation

of cometary radicals, 107

Photochemical ring expansion of cyclic ketones, 91

Photochemistry

of condensed NO₂ and NO₂-acetone mixture, 329

reversible, of dixanthylidenes, 447

Photochromic system CuCl(s)-H₂O(l) optical properties of metallic Cu in relation to, 321

Photocleavage

of butan-2-one triplets, Arrhenius parameters for, 65

Photodissociation

 ${
m CS_2}$, extent of and kinetic length of its oxidation chain estimated by means of a ${
m CS_2/O_2}$ laser, 401

Photoisomerization

cis-trans, of styrylquinoline, azulene effect on, 409

direct and anthraquinone sensitized trans→cis, of naphthyl-pyridyl-ethylenes, 479

of 1-ethoxycarbonyl-1H-azepine: excited state energetics and multiplicity, 61

reversible, of bithioxanthene, 345

of 1,1-dichloroethylene, primary reactions in, 233

of 3-chloro-3-methyldiazirine, 311

i.r., of BCl₃ by CO₂ laser pulses, kinetics of luminescence of BO and BCl radicals formed during, 49

of SO₂ in the presence of acetylene, 355

Photo-oxidation

aldhyde, initiation of in the liquid phase, 1

of some inorganic anions by the uranyl ion, flash photolytic study of, 265 Photo-oxygenation

dye-sensitized, kinetic aspects of, 23 Photoreactions

azobenzene as a convenient actinometer for the determination of quantum yields in, 41

type II, from aliphatic ketones, role of the solvent in, 287

Pyridine

hydrogen bonding effect of the deactivation of the excited states of acridone, 457

Quantum yield(s)

for an intramolecular enone photocycloaddition, 341

in photoreactions, azobenzene as a convenient actinometer for the determination of, 41

Quenching

of argon 106.7 nm fluorescence, 241 collisional, of $NO(B^2\Pi_r)_{v'=0}$ produced by the reaction $N(^2D)$ with N_2O , 435

of organic singlets and triplets by a Ni(II) complex, 415

Radical-anions and -dianions

electron-photoejection in solutions of, 119

Radicals

cometary, photochemical formation of, 107

Red emission

of aromatic thicketones, nature of, 333 Resonance fluorescence

numerical studies of the growth and decay of, 241, 277

Resonance lines

Hg, Na, Cd, N, H and O, trapping time versus atom concentration for, 477 Ring expansion

photochemical, of cyclic ketones, 91

Scanning narrow-band dye laser spectroscopic detection of molecular species using a, 201 Sodium resonance line

trapping time versus atom concentration for, 477

Spectroscopic detection

of molecular species using a scanning narrow-band dye laser, 201

Spin-orbit perturbation effects

external, of C and F photoisomers of dixanthylidenes, 447

in reversible photoisomerization and fluorescence of bithioxanthene, 345

Structure

of C and F photoisomers of dixanthylidenes, 447

3-Styrylquinoline

azulene effect on cis-trans photoisomerization of, 409

Sulphur dioxide

photolysis of in the presence of acetylene, 355

Temperature

of C and F photoisomers of dixanthylidenes, 447

in reversible photoisomerization and fluorescence of bithioxanthene, 345

Temperature dependence

of triplet state reaction rate and quantum yield for an intramolecular enone photocycloaddition, 341

 $Trans \rightarrow cis$ photoisomerization

direct and anthraquinone sensitized of naphthyl-pyridyl-ethylenes, 479

Trapping

of argon 106.7 nm fluorescence, 241 Trapping time

versus atom concentration for Na, Hg, Cd, N, H and O resonance lines, 277

Triplet state reaction rate

for an intramolecular enone photocycloaddition, 341

Thioketones

aromatic, nature of red emission of, 333

Uranyl ions

flash photolysis study of photochemical reactions of, 253

flash photolytic study of photo-oxydation of some inorganic anions by, 265

Valence photoisomerization

of 1-ethyoxycarbonyl-1H-azepine: excited state energetics and multiplicity, 61

Vibrational numbering

in the A²II_i state of ClO, 337