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Guide to the Stuart Alan Rice Papers 1947-2004

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Descriptive Summary

Identifier ICU.SPCL.RICESA

Title Rice, Stuart Alan. Papers

Date 1947-2004

Size 27 linear feet (54 boxes)

Repository Special Collections Research Center
University of Chicago Library
1100 East 57th Street
Chicago, Illinois 60637 U.S.A.

Abstract Stuart A. Rice (1932-) Professor of Chemistry. The collection documents Rice's research and teaching in physical and theoretical chemistry. Includes drafts, proofs and offprints of publications, research notes, and teaching materials.

Information on Use

Access

The collection is open for research.

Citation

When quoting material from this collection, the preferred citation is: Rice, Stuart Alan. Papers, [Box #, Folder #], Special Collections Research Center, University of Chicago Library

Biographical Note

Stuart Alan Rice was born in New York, New York in 1932. He received a S.B. from Brooklyn College in 1952, and was awarded his Ph.D. by Harvard University in 1955. He joined the Department of Chemistry at the University of Chicago in 1957 and has served as Director of the James Franck Institute (1961-1967), Chair of the Department of Chemistry (1971-1976) and Dean of the Division of the Physical Sciences (1981-1995). He is currently the Frank P. Hixon Distinguished Service Professor Emeritus.

Scope Note

The collection is divided into three series.

Series I: Publications includes materials associated with books and articles authored and co-authored by Rice. It is divided into four subseries. Subseries 1 contains notes, manuscripts and correspondence for The statistical mechanics of simple liquids; an introduction to the theory

of equilibrium and non-equilibrium phenomena, published by Rice and Peter Gray in 1965. Subseries 2 includes copies of articles used as sources in Rice and Meishan Zhao's Optical Control of Molecular Dynamics (2000) along with copies of associated permission requests. Subseries 3 contains files associated with Rice's work with R. Stephen Berry and John Ross on the second edition of the textbook Physical Chemistry. Subseries 4 includes offprints of articles authored and co-authored by Rice, organized chronologically and identified by short titles.

Series II: Research includes research notes, charts and calculations compiled by Stuart and his students and colleagues.

Series III: Teaching, contains lecture notes, examinations, assignments, problem solutions, for courses taught by Rice at the University of Chicago.

Related Resources

The following related resources are located in the Department of Special Collections:

http://www.lib.uchicago.edu/e/spcl/select.html

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- 15) Laboratory angular dependence and the recoil-energy spectrum of the products of the reaction F+C6D6->D+C6D5F
- 16) Quantum ergodicity and vibrational relaxation in isolated molecules
- 17) Quantum ergodicity and vibrational relaxation in isolated molecules
- 18) Influence of large amplitude vibrational motion on the rate of intersystem crossing: A study of single vibronic level fluorescence from aniline N, N-d2, aniline-d5, and aniline-d+7
- 19) Intramolecular energy transfer in cis-trans isomerization: A study of fluorescence from single vibronic levels of styrene, trans-β-styrene-d1, styrene-d8, and ethynlbenzene
- 20) Nonradiative processes in p-C6H4F2 and m-C6H4F2, 21) Fluorescence lifetimes of individual vibronic levels of partially deuterated benzenes: A further test of the theory of radiationless processes
- 22) Intramolecular vibrational energy transfer: A study of representations.

Box 15

Folder 5

Articles, 1974

- 1) 2,3-Naphthi-2,5-bicyclo[2.2.0]hexadiene
- 2) Comments on the Ultraviolet Spectrum and Photophysical Properties of Trimethylenecyclopropane
- 3) A Model Calculation of the Intramolecular Vibration Spectrum of Liquid Water
- 4) Can the Optical Excitations of Surface Plasmons be Used to Study (Liquid) Metal Surfaces?
- 5) A Quantum ergodic theory approach to unimolecular fragmentation
- 6) Amorphous Solid Water: An X-ray Diffraction Study
- 7) Comment on the application of the absorption sum rule to the optical properties of liquid metals

- 8) On the use of Raman scattering to probe exciton-phonon coupling in molecular crystals
- 9) A Raman spectral study of amorphous solid water*
- 10) Surface plasmons in liquid mercury: Propagation in an nonuniform transition layer
- 11) Random coupling model for molecular dissociation
- 12) Quatum ergodicity and vibrational relaxation in isolated molecules. II. ⊠-independent effects and relaxation to the asymptotic limit.

Box 16

Folder 1

Articles, 1975

- 1) Some Comments on the Dynamics of Primary Photochemical Processes
- 2) Stabilization of a Mode-Locked Nd: Glass Laser by Intracavity Second-Harmonic Generation
- 3) Topics in Current Chemistry
- 4) Extended Generalized Langevin Equations: Calculation of the Velocity Autocorrelation Function of a Simple Fluid
- 5) The stimulated Raman spectrum of water and its relationship to liquid structure
- 6) Comment: Reinterpretation of hexatriene spectrum and comparison with theory
- 7) Theory of photochemical isomerization in polyenes
- 8) Diffraction pattern and structure of amorphous solid water at 10 and 77 K*
- 9) A reply to "Comment on stimulated Raman scattering from water"
- 10) Angular Momentum Conservation in Photochemical Fragmentation a Simple Model
- 11) Amorphous Solid Water: A Neutron Diffraction Study.

Box 16

Folder 2

Articles, 1976

- 1) Surface Plasmos at an Inhomogeneous Liquid Metal/Dielectric Interface: Evidence for a Second Branch Dispersion Curve
- 2) An optical model of dipolar exciton band structure
- 3) Response to the comment by Conwell on dispersion of surface plasmons in inhomogeneous media
- 4) A simulation of the Conformation of All-Trans-Retinal by Trans-Retinal by Transfer of local conformations
- 5) Tunable Infrared Ultrashort Pulses Frome a Mode-Locked Parametric Oscillator
- 6) On Vibrational Relaxation in Liquids
- 7) Nonlinear resonance and stochasticity in intramolecular energy exchange
- 8) An experimental and theoretical study of the dispersion of the shift surface exciton on anthracene crystals
- 9) Surface Plasmon dispersion in liquid mercury
- 10) Surface polaritons on molecular crystals: An experimental study of anthracene.

Box 16

Folder 3

Articles, 1978

- 1) An interpretation of the OH stretching Region of the vibrational Spectrum of Ice I

- 2) The 2500-4000 cm -1 Raman and Infrared Spectra of Low Density Amorphous Solid Water and Polycrystalline Ice I
- 3) Large amplitude vibrational motion in a one dimensional chain: Coherent state representation
- 4) On Vibrational Population Relaxation in Solution
- 5) On the existence of a nonmonotonic nuclear density profile at the jellium-vacuum interface
- 6) Response to a second comment by Conwell on dispersion of surface plasmons in inhomogeneous media
- 7) Internal Energy Transfer in Isolated Molecules: Ergodic and Nonergodic Behavior
- 8) A conjectured interpretation of the OH stretching spectrum of low density amorphous solid water
- 9) A theoretical study of the OH stretching region of the vibrational pectrum of ice Ih
- 10) The OH stretching region infrared spectra of low density amorphous solid water and polycrystalline ice Ih
- 11) Raman spectroscopic studies of the OH stretching region of low density amorphous solid water and of polycrystalline ice Ih
- 12) Determination of the density profile in the liquid-vapor interface near the triple pointa)
- 13) On the existence of a nonmonotone surface ion density in liquid metals: Perturbative introduction of discrete ions into jellium
- 14) Spectroscopic properties of polyenes. III. 1,3,5,7-Octatetraene.

Box 16

Folder 4

Articles, 1978

- 1) On the Relationship Between Low-Density Amorphous Solid Water and Ice Ih
- 2) Angular momentum constraints in radiationless processes: The symmetric top molecule
- 3) The intramolecular potential of water molecules engaged in hydrogen bonding from analysis of the overtone spectrum of ice I
- 4) On the role of Fermi resonance in the spectrum of water in its condensed phases
- 5) Low energy collisional relaxation of I2* in He: Evidence for resonance enhaced vibrational deactivation
- 6) Azeroth order random network model of liquid water
- 7) Collision induced intramolecular vibrational energy transfer in 1B2 aniline (includes supplemental material)
- 8) Single vibronic Fluorescence from aniline
- 9) Vibrational Relaxation in Liquid Diethylamine
- 9) Dynamics of Radiationless Processes Studied in Pulsed Supersonic Free Jets: Some Naphthalene Lifetimes
- 10) A numerical study of large amplitude motion on a chain of coupled nonlinear oscillators
- 11) On the Continuity of State between Amorphous Solid and Liquid Water
- 12) On the influence of nonrandom sequential coupling on radiationless relaxation processes.

Box 16

Folder 5

Articles, 1979

- 1) Quantum Effects in Intramolecular Energy Transfer: The Role of Observations
- 2) Closing Remarks
- 3) Comments on a semigroup formalism for the description of phase and population relaxation processes
- 3) The mean spherical approximation and effective pair potentials in liquids
- 4) The entropy of liquid water from the random network model
- 5) The enthalpy and heat capacity of liquid water and the ice polymorphs from a random network model
- 6) The water-water pair potential near the hydrogen bonded equilibrium configuration
- 7) The influence of rotational motion on intersystem crossing in isolated molecules.

Box 16

Folder 6

Articles, 1980

- 1) On rotational Effects in Radiationless Processes in Polyatomic Molecules
- 2) Quasiperiodic and Stochastic Intramolecular Dynamics: the Nature of Intramolecular Energy Transfer
- 3) Measurement of the Group Refractive Indices of Several Liquids
- 4) A random network model calculation of the free energy of liquid water
- 5) Very Low energy cross sections for collision-induced rotational relaxationof I2 seeded in a supersonic free jet
- 6) Collision induce relaxation of an electronically excited molecule: Evidence for low energy resonance enhaced vibrational deactivation
- 7) A test of the random network model of water using molecular dynamics simulation Data
- 8) The Influence of quantization on the onset chaos in Hamiltonian systems: The Kolmogorov entropy interpretation, 9) Simulation Studies if the Scattering of a Solitary Wave by a Mass impurity in a chain nonlinear oscillators
- 10) Mode dependent enhaced vibrational relaxation in low energy He-1B2 aniline collisions
- 11) Comment on the rotational state dependence of indirect photodissociation of a polyatomic molecule.

Box 16

Folder 7

Articles, 1980

- 1) A test of the random network model of water using molecular dynamics simulation data
- 2) Dynamical correlations and chaos in classical Hamiltonian systems
- 3) An accurate integral equation for the pair and triplet distribution functions of a simple liquid
- 4) A study of the rotational state dependence of predissociation of a polyatomic molecule: The case of ClO2
- 5) A correlation diagram model for interpreting propensity rules in collision induced vibrational relaxation

- 6) Intramolecular vibrational energy transfer in 1B2 aniline induced by collisions with H2O and CH3F
- 7) Collision induced intramolecular vibrational energy transfer in 1B3u pyrazine
- 8) Single level fluorescence form 1B3u pyrazine: The role of Fermi resonance and Duschinski rotation.

Box 17

Folder 1-2

Articles, 1981

- 1) A Pseudoatom Theory for the Structure of the Liquid-metal-Vapour Interface
- 2) Rotational Analysis of Bands at the Long-Wavelength End of the A2A2-X2B1 Electronic Transition of CIO2
- 3) Collision-Induced Intramolecular Energy Transfer in Electronically Excited Polyatomic Molecules
- 4) Structural test for intermolecular force models of crystalline HCl
- 5) An improved analysis of the OH stretching region of the vibrational spectrum of ice Ih
- 6) Is Dynamical Chaos the Same Phenomenon in Classical and Quantum Mechanical Hamiltonian Systems
- 7) The Ewald-Oseen theorem in the x-ray frequency region: A microscopic analysis
- 8) Improved method for calculating the dispersion of surface excitations on homogeneous media
- 9) Structure in the Density Profile at the Liquid-Metal-Vapor Interface
- 10) Mode-to-mode energy transfer in 1B2 aniline induced by very low energy collisions with He.

Box 17

Folder 3

Articles, 1982

- 1) Cooperative vibrational excitation in molecular solids
- 2) The structure of the liquid-vapour interface of sodium-caesium alloys
- 3) Comparison of vibrational relaxation of 1Au Glyoxal Induced by very-low-energy collisions and by photodissociation of Van der Waals complexes
- 4) Triplet correlation functions in the Lennard-Jones fluid: Tests against molecular dynamics simulations
- 5) Experimental and theoretical studies of the density profile in the liquid-vapour interface of Cs
- 6) Further comments concerning large amplitude motion in an anharmonic chain with nearest neighbor interactions
- 7) Very low energy collision induced vibrational relaxation of 1Au glyoxal
- 8) The OH stretching spectrum of liquid water: A random network model interpretation
- 9) An improved analysis of the OH stretching spectrum of amorphous solid water
- 10) A theoretical analysis of very low energy collision induced vibrational relaxation in the system He-I2 (3⊠0 u+)
- 11) Atom molecule collisions at very low energies: A correlation function approach
- 12) A study of the liquid-vapor interface of mercury: Computer simulation results

- 13) Theoretical and experimental characterization of supersonic expansions from split sources
- 14) Theoretical and Experimental Characterization of Supersonic Expansions from Slit Sources
- 15) Some properties of large amplitude motion in an anharmonic chain with nearest neighbor interactions
- 16) A pseudoatom theory for the liquid-vapor interface of simple metals: Computer simulation studies of sodium and cesium
- 17) Test of effective pair potentials for water: Predicted ice structures, 18) Amorphous solid water and Its Relationship to Liquid Water: A random Network Model for Water.

Box 17
Folder 4

Articles, 1983

- 1) SVL fluorescence spectroscope and collision-induced intramolecular vibrational energy transfer in 1B1 difluorodiazirine
- 2) A theoretical Analysis of the Stretching Spectra of Ice Ih, Liquid Water, and Amorphous Solid Water
- 3) Classical Trajectory Studies if energy transfer in Ar-difuoridiazirine collisions
- 4) A study of the freezing transition in the Leonard-Jones system
- 5) An X-ray reflectance study of the liquid-vapor of Cs
- 6) Theoretical analysis of the achievement of random close packing of hard spheres and a conjecture on spinodal decomposition
- 7) Contribution to the theory of freezing.

Box 17
Folder 5

Articles, 1984

- 1) Comment on the structures of the liquid-vapor interfaces f Na and Na-Cs alloys
- 2) Calculations of the lattices mode spectra of proton ordered ices: A test of the accuracy of water-water potentials
- 3) Crystallization of the classical one-component plasma
- 4) Shots-noise-limited detection scheme for two-beam laser spectroscopy
- 5) 1B2u<->1A1g spectroscopy of jet-cooled benzene: Single vibronic level fluorescence studies
- 6) Freezing of the two classical two-dimensional, one component plasma
- 7) Relaxation dynamics of photexcited benzene-rare gas van der Waals complexes
- 8) Vibrational state dependence of radiationless processes in 1B2u benzene
- 9) Comment on vibrational energy redistribution in the isolated dimelthyltetrazine dimer
- 10) Relaxation of large molecules following ultrafast excitation
- 11) Model based calculations of the lattice mode spectra of ice Ih and amorphous solid water
- 12) Potential Barrier, Penetration Of
- 13) Very Low Energy Collision Induced Vibrational: An overview
- 14) Intramolecular Dephasing
- 15) Joseph Edward Mayer (1904-1983)

- 16) A comment on dynamical chaos in classical and quantum mechanical Hamiltonian systems
- 17) A generalization of the Ewald-Oseen extinction theorem: Relation to surface polariton modes
- 18) Very-Low-Energy Collision-Induce Rotational Relaxation: A theoretical Analysis
- 19) A Test of an effective pair potential for liquid water
- 20) Theory of the electrical conductivity in the liquid-vapor interface of a simple metal
- 21) X-ray total external reflectance-diffraction as a probe of the structure of the liquid-vapor interface.

Box 17

Folder 6

Articles, 1985

- 1) X-ray reflection from liquids
- 2) Structure of the liquid-vapor interface of water
- 3) A conjecture concerning transformation of a supercooled hard sphere to a metastable disordered solid
- 4) Comment on the lattice mode spectra of ST-2 potential model of proton ordered ices
- 5) Wave Packet evolution in isolated pyrazine molecules: Coherence triumphs over chaos
- 6) Rotational state dependence of pyrazine fluorescence: Initial decays for the vibrationless 1B3u state
- 7) The elastic constants of condensed matter: A direct-correlation function approach
- 8) Picosecond CARS as a probe of ground electronic state intramolecular vibrational redistribution
- 9) Control of selectivity of Chemial reaction via control of wave packet evolution
- 10) A scattering resonance description of very low energy collision induced vibrational relaxation
- 11) A Comment on the consistency of truncated nonlinear integral equation based theories of freezing.

Box 18

Folder 1

Articles, 1986

- 1) Fractal Behavior in classical collisional energy transfer
- 2) Science Must Grow
- 3) The Infrared spectra of pentagonal, hexagonal and heptagonal Rings of water Molecules: A model Study
- 2) Coherent pulse sequence induced control of selectivity of reactions: Exact quantum mechanical calculations
- 3) Bottlenecks to Unimolecular Reactions and an Alternative from Classical RRKM Theory
- 4) Selectivity of Elementary Molecular Processes Associated with Energy Transfer and Chemical Reaction
- 5) Distribution of atoms at the surface of liquid mercury
- 6) Fluorescence Lifetimes of Mode 61 in Deuterobenzenes: Fine Structure in the Decay Lifetime Spectrum
- 7) Coherent Pulse Sequence Induced Control of Selectivity of Reactions

- 8) An experimental study of the in-plane distribution in the liquid-vapor interface of mercury
- 9) A self -consistent Monte Carlo simulation of the electron and ion distributions in the liquid-vapor interface of a simple metal
- 10) The classical mechanics of vibrational predissociation: A model based study of phase space structure and its influence on fragmentation rates
- 11) The vibrational spectrum of the water dimer: Some model based predictions.

Box 18

Folder 2

Articles, 1987

- 1) On the structure of the liquid metal-polar adsorbate interface: Monte Carlo simulations
- 2) Mode-Specific Intramolecular Vibrational Relaxation in S1 Tetrazine-Argon: A Perturbation Theory Analysis
- 3) A molecular dynamics study of the structure of a model Langmuir monolayer of amphiphile molecules
- 4) Direct measurements of vibrational predissociation of p-difluorobenzene-argon
- 5) Hyperthermal Scattering of Atoms from Disordered Surfaces
- 6) Is a Liquid Supported Amphiphile Monolayer Aptlu Described as a Two-Dimensional System?
- 7) The Atomic Structure of the Liquid-Vapor Interface of a Metal: An Example of the Influence of Strong Density Dependence of the Interatomic Potential
- 8) How Robust are Bottlenecks to Unimolecular Fragmentation? 9) Ensemble dephasing in vibrationally excited jet-cooled tetrazine and its complexes with Ar, Kr, and Xe
- 10) Intramolecular vibrational relaxation in S0 state of s-tetrazine-X (X=Ar,Kr,Xe)
- 11) X-Ray diffraction study of a Langmuir monolayer of C21H43OH 12) A lattice model of a supported monolayer of amphiphile molecules: Monte Carlo simulations
- 13) Studies of the Atomic Distributions in the Liquid-Vapor Interfaces of Simple Metals and Alloys*.

Box 18

Folder 3

Articles, 1989

- 1) A Study of the Influence of an amphiphile monolayer on the structure of the supporting liquid
- 2) Solitonlike Structure in the Parametric Distortions of Bounded-System Energy Spectra
- 3) Hamiltonian Mapping Models of Molecular Fragmentation
- 4) Light scattering with incident evanescent waves: A method for studying the properties of adsorbed polymers
- 5) Kinetics of a structural phase transition in Langmuir monolayers studied using x-ray diffraction
- 6) Semiclassical quantization of the scattering from a classically chaotic repellor
- 7) Scattering from a classically chaotic repellor
- 8) Exact quantization of the scattering from classically chaotic repellor.

Box 18

Folder 4

Articles, 1990

- 1) Langmuir Monolayers: Structures and Phase Transitions
- 2) Van der Waals Molecules as a Vehicle for the Study of Unimolecular Reactions
- 3) An Interpretation of the multiple fluid-fluid transitions in liquid supported amphiphile monolayers
- 4) On using shaped light pulses to control the selectivity of product formation in a chemical reaction: An application to a multiple level system
- 5) Unimolecular Reactions Revisited
- 6) Influence of vibrational frequency mismatch on phase-space bottlenecks to intramolecular energy redistribution and molecular fragmentation
- 7) Uniaxial compression induced collective tilting and distorted hexagonal structure in Langmuir monolayers
- 8) An interpretation of the bifurcation orientational relaxation processes in a supercooled liquid
- 9) The influence of the structure of the surface of a liquid on the properties of a supported monolayer
- 10) Parametric motion of energy levels: Curvature distribution
- 11) Light scattering with evanescent waves: Intermolecular interference and the structure factor for an ideal flexible chain at an interacting interface.

Box 18

Folder 5

Articles, 1991

- 1) From Discrete to Continuous Quantum Spectra: Parametric Sensitivity and Statistical Properties
- 2) Active Control of Selectivity of Product Formation in a Chemical Reaction: What's new? 3) A Generalized method of Stimulated Emission Pumping
- 4) Molecular dynamics studies of the liquid-vapor interface of water
- 5) Their Most Productive Years: Young Physics Faculty in 1990
- 6) Long-Chain Amphiphile Monolayers on an Anistropic Substrate: A Computer Simulation Study
- 7) The Use of Pulse Shaping To Control the Photodissociation of a Diatomic Molecule: Preventing the Best from Being the Enemy of the Good
- 8) Comment concerning the optimum control of transformations in an unbounded quantum system
- 9) Fluorescence-detected wave packet interferometry: Time resolved molecular spectroscopy with sequences of femtosecond phase-locked pulses.

Box 18

Folder 6

Articles, 1992

- 1) Signatures of Chaos in Quantum Dynamics and the Controllability of Evolution in a Quantum System
- 2) An approximate classical unimolecular reaction rate theory
- 3) Comment on the tilting transition in Langmuir monolayers
- 4) Grazing incidence x-ray diffraction study of the transverse structure function of the liquid-vapor interface of Ga

- 5) Molecular-dynamics studies of the structure and properties of monolayers of perfluorinated amphiphiles
- 6) Unimolecular fragmentation rate theory revisited: An improved classical theory
- 7) Structural in a monolayer of fluorinated amphiphile molecules
- 8) A molecular dynamics study of the packing structures in monolayers of partially fluorinated amphiphiles
- 9) Spectroscopy with Nonimaging Optics: Application to the Infrared Spectroscopy of Langmuir Monolayers
- 10) Comment on the classical theory of the rate of isomerization
- 11) Comment on the rate of vibrational predissociation of some RgCl2 and RglCl molecules
- 12) Field-theoretical model inspired by adiabatic-ansatz eigenvalue problems
- 13) Comment on the rate of isomerization in molecules with a symmetric triple well potential.

Box 19

Folder 1

Articles, 1993

- 1) Intermediate ordering in a liquid supported monolayer: A molecular dynamics study
- 2) A molecular dynamics study of the structure of a long chain amphiphile monolayer adsorbed on ice Ih
- 3) Intermediate ordering in a liquid supported monolayer: A molecular dynamics study
- 4) Infrared external reflection spectroscopic studies of phase transitions in Langmuir monolayers of stearyl alcohol
- 5) Molecular parking in water supported monolayers of F(CF2)11COOH and F(CF2)10CH2COOH.

Box 19

Folder 2

Articles, 1993

- 1) Infrared external reflection spectroscopic studies of phase transitions in Langmuir monolayers of stearyl alcohol
- 2) Intermediate ordering in a liquid supported monolayer: A molecular dynamics study
- 2) In-Plane Structure of the Liquid-Vapor Interface of an Alloy: A grazing Incidence X-ray Diffraction Study of Bismuth:Gallium
- 3) Infrared external reflection spectroscopic studies of phase transitions in Langmuir monolayers of heneicosanol. 4) Infrared external reflection spectroscopy of adsorbates on dielectric substrates: Determining adsorbate orientation in Langmuir monolayers
- 5) Evanescent wave light scattering study of a diblock copolymer adbsorbed at the air/water interface
- 6) Comment on the rate of isomerization of 3-phospholene
- 7) Comment on molecular dynamics simulations of monolayers of fluorinated amphiphiles
- 8) Hydrogen negative ion: Semiclassical quantization and weak-field effect
- 9) Differences in the Structures of Relaxed and Unrelaxed Langmuir Monolayers of Heneicosanol: Dependence of Collective Molecular Tilt on Chain Conformation
- 10) Population in a multilevel System: A model Study

- 11) In-Plane Structure of the Liquid-Vapor Interface of an Alloy: A Grazing Incidence X-ray Diffraction Study of Bismuth: Gallium
- 12) Comment on the Influence of Molecular Flexibility on Molecular packing in Langmuir Monolayers
- 13) Reaction Path Analysis of the Rate of Unimolecular isomerization
- 14) Static and Dynamic evanescent wave light scattering studies of diblock copolymers adsorbed at the air/water interface
- 15) Intermediate ordering in a liquid supported monolayer: A molecular dynamics study.

Box 19
Folder 3

Articles, 1994

- 1) Self-consistent Monte Carlo simulation of the electron ion distributions in the liquid-vapor interface of magnesium
- 2) Resonance State Approach to Quantum Transition State Theory
- 3) Formation of an ordered Langmuir monolayer by a non-polar chain molecule
- 4) Laser Techniques for State-Selected and State-to-State Chemistry II
- 5) Nonadiabatic transitions and gauge structure
- 6) In-plane X-Ray diffraction from monolayers of perfluorinated fatty acids: evidence for azimuthal ordering in the condensed phase
- 7) Remarks concerning the theory of the tilting transition in expanded Langmuir monolayers
- 8) Laser Techniques for State-Selected and State-to-State Chemistry II
- 9) Optimal control theory approach to enhancement of HgAr photodissociation
- 10) On the classical theory of the rate of isomerization of HCN.

Box 19
Folder 4

Articles, 1995

- 1) Thermal Expansion Coefficient of a Water-Supported Perfluoron-n-eicosane Monolayer
- 2) Experimental evidence for the divergence of a transport coefficient in a quasi-two-dimensional fluid
- 3) Backbone ordering in amphiphile monolayers.

Box 19
Folder 5

Articles, 1996

- 1) Chromophore Rich Nanodomains in Bulk and Ultra Thin Film Polymer Blends
- 2) Phase transitions in a confined quasi-two-dimensional colloid suspension
- 3) Dynamics of Quasi Two Dimensional Colloidal Systems
- 4) In-plane structure of the liquid-vapor interfaces of dilute bismuth: gallium alloys: X-ray-scattering studies
- 5) The influence of high-frequency modes on ultrashort pulse absorption initiated processes
- 6) Observations of First-Order Liquid-to-Hexatic and Hexatic-to-Solid Transitions in a Confined Colloid Suspension
- 7) Dynamics of Quasi Two-Dimensional Colloidal Systems

- 8) Comment on Quantum Transition State Theory
- 9) Structure of the liquid-vapor interfaces of metals and binary alloys
- 10) Molecular dynamics studies of Langmuir monolayers of F(CF2)20F, 24) Molecular dynamics studies of Langmuir monolayers of F(CF2)11COOH
- 11) Surface segregation and layering in the liquid-vapor interface of a dilute bismuth: gallium alloy
- 12) Self-diffusion in dilute quasi-two-dimensional hard sphere suspensions: Evanescent wave light scattering and video microscopy studies
- 13) Structure and equation of state of a long chain amphiphile monolayer adsorbed on ice Ih: A molecular dynamics study
- 14) Structural studies of semifluorinated hydrocarbon monolayers at the air/water interface
- 15) A generalized approach to the control of the evolution of a molecular system
- 16) Infrared spectroscopic studies of structure and phase transitions in a Langmuir monolayer of H(CH2)23COOH, 31) New approaches to a Classical Theory of Unimolecular Reaction Rate.

Box 19
Folder 6

Articles, 1997

- 1) Active Control of the Dynamics of Atoms and Molecules
- 2) Perspectives on the control of quantum many-body dynamics application to chemical reactions
- 3) A synchrotron x-ray liquid surface spectrometer
- 4) Structure of liquid Ga and the liquid-vapor interface of Ga
- 5) Re-examination of Chirped Pulse Control of Wave Packet Motion in Nal
- 6) The influence of high-frequency modes on two spectroscopy
- 7) Structure of the liquid-vapor interface of a Sn:Galloy.

Box 19
Folder 7

Articles, 1998

- 1) Quantum Monte Carlo simulations of the structure in the liquid-vapor interface of BiGa binary alloys
- 2) Intramolecular energy transfer in the isomerization cyclobutanone
- 3) Semiclassical quantum unimolecular reaction rate thery revisited
- 4) Self-consisted quantum Monte Carlo Simulations of the structure of the liquid-vapor interface of eutectic indium-gallium alloy
- 5) Selective photochemistry via adiabatic passage for degenerate final states
- 6) Theoretical studies of the Structures of the Liquid-Vapor Interfaces of Metals and Binary Alloys
- 7) Phase Transitions in a quasi-two-dimensional system
- 8) Unusual structure in a quasi-two0dimensional binary colloid fluid
- 9) Comparison of the structures of the liquid-vapor interfaces of AI, Ga, and TI
- 10) Structure of the liquid-vapor interface of a metal from a simple model potential: Corresponding States of the Alkali metals
- 11) Equivalence of the Kobrak-Rice photoselective adiabatic passage and the Brumer-Shapiro strong field methods for control of product formation in a reaction 12)

Computer simulation study of the structure of the liquid-vapor interface of mercury, at 20, 100, and 200C
- 13) Coherent population transfer via a resonant intermediate state: The breakdown of adiabatic passage
- 14) Coherent population transfer via a resonant intermediate state: The breakdown of adiabatic passage.

Box 20

Folder 1

Articles, 1999
- 1) John Gamble Kirkwood
- 2) Protein foldingat the air-water interface studied with x-ray reflectivity
- 3) A sufficient condition for the angle parameter of the complex dilatation Transfroamtion
- 4) Urease and Hexadecylamine-Unrease Films at the Air-Water Interface:An X-Ray Reflection and Grazing Incidence X-Ray Diffraction Study,5) The Structure of the liquid-vapor interface of a gallium-tin binary alloy
- 6) Computational Chemistry in the Undergraduate Chemistry Curriculum: Delvelopment of a Comprehensive Course Formula
- 7) Two—Dimensional freezing in the liquid-vapor interface of a dilute Pb:Ga alloy, A sufficient condition for the angle parameter of the complex dilatation transformation
- 8) Experimental observations of non-Gaussian behavior and stringlike cooperative dynamics in concentrated quasi-two-dimensional colloidal liquids
- 9) Controlling quantum wavepacket motion in reduced-dimensional spaces: reaction path analysis in optimal control of HCN isomerization
- 10) Quantum Monte Carlo Simulation Studies of the Structures of the Liquid-Vapor Interfaces of Sn and Pb
- 11) A sufficient condition for the angle parameter complex dilatation transformation
- 12) Computer Simulation study if the structure if the liquid-vapor interface of mercury at 20, 100 and 200°C.

Box 20

Folder 2

Articles, 2000
- 1) Optical control reactions
- 2) Active Control of Molecular Dynamics: Coherence versus Chaos
- 3) Structure of the liquid-vapor interface of a dilute alloy of Pb in Ga
- 4) A test of the dependence of an optimal control field on the number of molecular degrees of freedom : HCN isomerization
- 5) Test of the universal local pseudopotential for the description of an inhomogeneous metal
- 6) Diffusion of an isolated colloidal sphere confined between flat plates
- 7) Direct measurements of constrained Brownian motion of an isolated sphere between two walls
- 8) Melting transition in a quasi-two-dimensional colloid suspension: Influence of the colloid-colloid interaction
- 9) Nature of the transition from tow- to three-dimensional ordering in a confined colloidal suspension

- 10) Hexagonal to square lattice conversion in bilayer systems.

Box 20

Folder 3

Articles, 2001

- 1) Sequential STIRAP-based control of the HCN->CNH isomerization. 2) Sensitivity of the Extended STIRAP Method of Selective Population Transfer to Coupling to Background States
- 3) Interfering for the good of a chemical reaction
- 4) Density distribution in the liquid-vapor interface of a dilute alloy of Pb in Ga
- 5) Melting of a quasi-two-dimensional metallic system
- 6) Dynamical heterogeneity in a dense quasi-two-dimensional colloidal liquid.

Box 20

Folder 4

Articles, 2002

- 1) Population Transfer to a Predissociating Target State Using Pulsed Coherent Excitation: Sensitivity to Coupling to Background States
- 2) Variations on the Theme of Stimulated Raman Adiabatic, Passage: Control of Chemical Reactions
- 3) Equilibrium structure and effective pair in a quasi-one0dimensional colloid liquid
- 4) Optical control of molecular dynamics in a liquid
- 5) Active control of product selection in a chemical reaction: a view of the current scene
- 5) Structure of the liquid-vapor interface of a dilute ternary alloy: P bans Sn in Ga
- 6) Controllability of population transfer to degenerate states: Analytical and numerical results for a four-level system.

Box 20

Folder 5

Articles, 2003

- 1) Phase diagram of a quasi-two-dimensional colloid assembly
- 2) High-Precision Molecular Wave-Packet Interferometry With HgAr Dimers
- 3) Structure of the liquid-vapor interface of a dilute ternary alloy: Pb and In in Ga
- 4) The Effect of Gauche Molecular Conformations on the Phase Diagram of a Langmuir Monolayer
- 5) Structure and phase transition in confined binary colloid mixtures
- 6) Two-dimensional freezing of TI in the liquid-vapor interface of dilute TI in Ga alloy
- 7) Adiabatic Population Transfer with control Fields
- 8) What Can We Learn from the Structures of the Liquid-Vapor Interfaces of Metals and Alloys?
- 9) Anomalus hydrodynamic interaction in a quasi-two-dimensional suspension
- 10) Measurement-assisted coherent control
- 11) Variations on adiabatic passage in optical control of molecular processes
- 12) Instantaneous Nomal Modes and Cooperative Dynamics in a Quasi-Two-Dimensional System of PArticles,
- 13) Anomalous hydrodynamic interaction in a quasi-two-dimensional suspension
- 14) Adiabatic population transfer in a liquid; Taking advantage of a decaying target state
- 15) Cooperative Dynamics in Two Dimensions

- 16) Selective photochemistry via adiabatic passage: Degenerate product states with different lifetimes
- 17) Ilya Progogine
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- 8) Phase transitions in the liquid-vapor interface of dilute alloys of Bi in Ga: New experimental studies.

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