

## CONCEPTS AND METHODS OF 2D INFRARED SPECTROSCOPY

2D infrared (IR) spectroscopy is a cutting-edge technique, with applications in subjects as diverse as the energy sciences, biophysics and physical chemistry. This book introduces the essential concepts of 2D IR spectroscopy step-by-step to build an intuitive and in-depth understanding of the method.

Taking a unique approach, this book outlines the mathematical formalism in a simple manner, examines the design considerations for implementing the methods in the laboratory, and contains working computer code to simulate 2D IR spectra and exercises to illustrate the concepts involved. Readers will learn how to accurately interpret 2D IR spectra, design their own spectrometer and invent their own pulse sequences. It is an excellent starting point for graduate students and researchers new to this exciting field. Computer codes and answers to the exercises can be downloaded from the authors' website, available at [www.cambridge.org/9781107000056](http://www.cambridge.org/9781107000056).

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They specialize in using 2D IR spectroscopy to study molecular structures and dynamics.

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Dedicated to Robin M. Hochstrasser.  
We appreciate the help of our students, postdoctoral researchers,  
colleagues, mentors and families.

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## Contents

1	Introduction	<i>page</i> 1
1.1	Studying molecular structure with 2D IR spectroscopy	3
1.2	Structural distributions and inhomogeneous broadening	10
1.3	Studying structural dynamics with 2D IR spectroscopy	12
1.4	Time domain 2D IR spectroscopy	14
	Exercises	16
2	Designing multiple pulse experiments	18
2.1	Eigenstates, coherences and the emitted field	18
2.2	Bloch vectors and molecular ensembles	23
2.3	Bloch vectors are a graphical representation of the density matrix	27
2.4	Multiple pathways visualized with Feynman diagrams	31
2.5	What is absorption?	37
2.6	Designing multi-pulse experiments	38
2.7	Selecting pathways by phase matching	42
2.8	Selecting pathways by phase cycling	44
2.9	Double sided Feynman diagrams: Rules	46
	Exercises	47
3	Mukamelian <i>or</i> perturbative expansion of the density matrix	48
3.1	Density matrix	48
3.2	Time dependent perturbation theory	52
	Exercises	60
4	Basics of 2D IR spectroscopy	61
4.1	Linear spectroscopy	61
4.2	Third-order response functions	65
4.3	Time domain 2D IR spectroscopy	69

viii	<i>Contents</i>	
	4.4 Frequency domain 2D IR spectroscopy	82
	4.5 Transient pump–probe spectroscopy	84
	Exercises	86
5	Polarization control	88
	5.1 Using polarization to manipulate the molecular response	88
	5.2 Diagonal peak, no rotations	92
	5.3 Cross-peaks and orientations of coupled transition dipoles	93
	5.4 Combining pulse polarizations: Eliminating diagonal peaks	99
	5.5 Including (or excluding) rotational motions	100
	5.6 Polarization conditions for higher-order pulse sequences	106
	Exercises	108
6	Molecular couplings	109
	6.1 Vibrational excitons	109
	6.2 Spectroscopy of a coupled dimer	114
	6.3 Extended excitons in regular structures	120
	6.4 Isotope labeling	128
	6.5 Local mode transition dipoles	133
	6.6 Calculation of coupling constants	134
	6.7 Local versus normal modes	137
	6.8 Fermi resonance	140
	Exercises	142
7	2D IR lineshapes	145
	7.1 Microscopic theory of dephasing	145
	7.2 Correlation functions	149
	7.3 Homogeneous and inhomogeneous dynamics	152
	7.4 Nonlinear response	155
	7.5 Photon echo peak shift experiments	161
	Exercises	164
8	Dynamic cross-peaks	166
	8.1 Population transfer	166
	8.2 Dynamic response functions	172
	8.3 Chemical exchange	174
9	Experimental designs, data collection and processing	176
	9.1 Frequency domain spectrometer designs	176
	9.2 Experimental considerations for impulsive spectrometer designs	180
	9.3 Capabilities made possible by phase control	191



<i>Contents</i>		ix
9.4	Phase control devices	197
9.5	Data collection and data workup	201
9.6	Experimental issues common to all methods	214
	Exercises	216
10	Simple simulation strategies	217
10.1	2D lineshapes: Spectral diffusion of water	217
10.2	Molecular couplings by <i>ab initio</i> calculations	226
10.3	2D spectra using an exciton approach	229
	Exercises	232
11	Pulse sequence design: Some examples	233
11.1	Two-quantum pulse sequence	233
11.2	Rephased 2Q pulse sequence: Fifth-order spectroscopy	236
11.3	3D IR spectroscopy	239
11.4	Transient 2D IR spectroscopy	243
11.5	Enhancement of 2D IR spectra through coherent control	245
11.6	Mixed IR–Vis spectroscopies	247
11.7	Some of our dream experiments	249
	Exercises	252
<i>Appendix A</i> Fourier transformation		254
A.1	Sampling theorem, aliasing and under-sampling	256
A.2	Discrete Fourier transformation	257
<i>Appendix B</i> The ladder operator formalism		260
<i>Appendix C</i> Units and physical constants		262
C.1	Physical constants	262
C.2	Units of common physical quantities	262
C.3	Emitted field $E_{\text{sig}}^{(3)}$	263
<i>Appendix D</i> Legendre polynomials and spherical harmonics		265
<i>Appendix E</i> Recommended reading		267
	<i>References</i>	269
	<i>Index</i>	281