

# Mark A Berg

## List of Publications by Year in descending order

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68  
papers

2,157  
citations

201674

27  
h-index

223800

46  
g-index

71  
all docs

71  
docs citations

71  
times ranked

1780  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Jump-precursor state emerges below the crossover temperature in supercooled $\alpha$ -terphenyl. Physical Review E, 2021, 103, L050601.   | 2.1  | 2         |
| 2  | Nonlinear measurements of kinetics and generalized dynamical modes. II. Application to a simulation of solvation dynamics in an ionic liquid. Journal of Chemical Physics, 2021, 155, 024123.                             | 3.0  | 2         |
| 3  | Nonlinear measurements of kinetics and generalized dynamical modes. I. Extracting the one-dimensional Green's function from a time series. Journal of Chemical Physics, 2021, 155, 024122.                                | 3.0  | 2         |
| 4  | Micelle Heterogeneity from the 2D Kinetics of Solute Rotation. Journal of Physical Chemistry Letters, 2019, 10, 6885-6891.  | 4.6  | 4         |
| 5  | Biphasic rate exchange in supercooled $\alpha$ -terphenyl from an ensemble analysis of single-molecule data. Physical Review E, 2018, 98, .   | 2.1  | 10        |
| 6  | Nonparametric analysis of nonexponential and multidimensional kinetics. I. Quantifying rate dispersion, rate heterogeneity, and exchange dynamics. Journal of Chemical Physics, 2017, 146, 054104.                        | 3.0  | 14        |
| 7  | Measuring a hidden coordinate: Rate-exchange kinetics from 3D correlation functions. Journal of Chemical Physics, 2016, 145, 054119.  | 3.0  | 12        |
| 8  | Rate and Amplitude Heterogeneity in the Solvation Response of an Ionic Liquid. Journal of Physical Chemistry Letters, 2016, 7, 504-508.   | 4.6  | 22        |
| 9  | When is a single molecule heterogeneous? A multidimensional answer and its application to dynamics near the glass transition. Journal of Chemical Physics, 2015, 143, 024110.   | 3.0  | 18        |
| 10 | Two-Dimensional Anisotropy Measurements Showing Local Heterogeneity in a Polymer Melt. Journal of Physical Chemistry Letters, 2014, 5, 2608-2612.   | 4.6  | 6         |
| 11 | Multiple Population-Period Transient Spectroscopy (MUPPETS) of CdSe/ZnS Nanoparticles. II. Effects of High Fluence and Solvent Heating. Journal of Physical Chemistry B, 2013, 117, 15272-15284.                          | 2.6  | 3         |
| 12 | Rate Dispersion in the Biexciton Decay of CdSe/ZnS Nanoparticles from Multiple Population-Period Transient Spectroscopy. Journal of the American Chemical Society, 2013, 135, 1002-1005.                                  | 13.7 | 14        |
| 13 | Multiple Population-Period Transient Spectroscopy (MUPPETS) of CdSe/ZnS Nanoparticles. I. Exciton and Biexciton Dynamics. Journal of Physical Chemistry B, 2013, 117, 15257-15271.  | 2.6  | 6         |
| 14 | Multiple population-period transient spectroscopy (MUPPETS) in excitonic systems. Journal of Chemical Physics, 2013, 138, 034201.   | 3.0  | 11        |
| 15 | Heterogeneity of the Electron-Trapping Kinetics in CdSe Nanoparticles. Nano Letters, 2011, 11, 3493-3498.   | 9.1  | 44        |
| 16 | Heterogeneous Reaction Rates in an Ionic Liquid: Quantitative Results from Two-Dimensional Multiple Population-Period Transient Spectroscopy. Journal of Physical Chemistry A, 2011, 115, 7984-7993.                      | 2.5  | 28        |
| 17 | Thermal gratings and phase in high-order, transient-grating spectroscopy. Journal of Chemical Physics, 2011, 134, 144502.   | 3.0  | 8         |
| 18 | Hilbert-space treatment of incoherent, time-resolved spectroscopy. I. Formalism, a tensorial classification of high-order orientational gratings and generalized MUPPETS. Journal of Chemical Physics, 2010, 132, 144105. | 3.0  | 11        |

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|----|--|------|-----------|
| 19 | Hilbert-space treatment of incoherent, time-resolved spectroscopy. II. Pathway description of optical multiple population-period transient spectroscopy. <i>Journal of Chemical Physics</i> , 2010, 132, 144106. | 3.0  | 11        |
| 20 | Dispersed Kinetics without Rate Heterogeneity in an Ionic Liquid Measured with Multiple Population-Period Transient Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 161-164.               | 4.6  | 29        |
| 21 | Separating Sub-Ensembles on Ultrafast Timescales: Multiple-Population Period Transient Spectroscopy (MUPPETS). , 2010, , .   |      | 0         |
| 22 | Dynamics of Water and Ions Near DNA: Comparison of Simulation to Time-Resolved Stokes-Shift Experiments. <i>Journal of the American Chemical Society</i> , 2009, 131, 1724-1735.                                 | 13.7 | 86        |
| 23 | Differential heterodyne detection with diffractive optics for multidimensional transient-grating spectroscopy. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2009, 26, 2357.             | 2.1  | 9         |
| 24 | Nanoscale structure and dynamics of DNA. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 1229-1242.   | 2.8  | 47        |
| 25 | Analyzing Nonexponential Kinetics with Multiple Population-Period Transient Spectroscopy (MUPPETS). <i>Journal of Physical Chemistry A</i> , 2008, 112, 3364-3375.   | 2.5  | 23        |
| 26 | Parallels between multiple population-period transient spectroscopy and multidimensional coherence spectroscopies. <i>Journal of Chemical Physics</i> , 2008, 129, 064504.                                       | 3.0  | 27        |
| 27 | Simultaneous time and frequency detection in femtosecond coherent Raman spectroscopy. I. Theory and model calculations. <i>Journal of Chemical Physics</i> , 2007, 127, 044306.                                  | 3.0  | 15        |
| 28 | Simultaneous time and frequency detection in femtosecond coherent Raman spectroscopy. II. Application to acetonitrile. <i>Journal of Chemical Physics</i> , 2007, 127, 044307.                                   | 3.0  | 11        |
| 29 | Electron-Phonon Coupling in Phenyleneethynylene Oligomers: A Nonlinear One-Dimensional Configuration-Coordinate Model. <i>Journal of Physical Chemistry C</i> , 2007, 111, 5770-5782.                            | 3.1  | 32        |
| 30 | Time-Resolved Optical Spectroscopy with Multiple Population Dimensions: A General Method for Resolving Dynamic Heterogeneity. <i>ChemPhysChem</i> , 2007, 8, 1761-1765.  | 2.1  | 37        |
| 31 | Coumarin base-pair replacement as a fluorescent probe of ultrafast DNA dynamics. <i>Tetrahedron</i> , 2007, 63, 3450-3456.   | 1.9  | 42        |
| 32 | Well-Resolved Coherent Raman Spectra from Femtosecond Pulses. <i>Springer Series in Chemical Physics</i> , 2007, , 386-388.  | 0.2  | 1         |
| 33 | Multidimensional Population Echo Distinguishes Between Homogeneous and Heterogeneous Dynamics. <i>Springer Series in Chemical Physics</i> , 2007, , 329-331.   | 0.2  | 1         |
| 34 | Role of Monovalent Counterions in the Ultrafast Dynamics of DNA. <i>Journal of Physical Chemistry B</i> , 2006, 110, 13248-13255.  | 2.6  | 30        |
| 35 | Modeling the Effects of Torsional Disorder on the Spectra of Poly- and Oligo-(p-phenyleneethynylenes). <i>Journal of Physical Chemistry B</i> , 2006, 110, 18844-18852.  | 2.6  | 66        |
| 36 | Ultrafast Dynamics in DNA: Fraying at the End of the Helix. <i>Journal of the American Chemical Society</i> , 2006, 128, 6885-6892.  | 13.7 | 130       |

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|----|---|------|-----------|
| 37 | High-Resolution Raman Spectra with Femtosecond Pulses: An Example of Combined Time- and Frequency-Domain Spectroscopy. <i>Physical Review Letters</i> , 2006, 97, 267401.   | 7.8  | 16        |
| 38 | Power-Law Solvation Dynamics in DNA over Six Decades in Time. <i>Journal of the American Chemical Society</i> , 2005, 127, 7270-7271.   | 13.7 | 141       |
| 39 | Effect of Protein Binding on Ultrafast DNA Dynamics: Characterization of a DNA:APE1 Complex. <i>Biophysical Journal</i> , 2005, 89, 4129-4138.  | 0.5  | 32        |
| 40 | Effect of lesions on the dynamics of DNA on the picosecond and nanosecond timescales using a polarity sensitive probe. <i>Nucleic Acids Research</i> , 2004, 32, 2494-2507.   | 14.5 | 55        |
| 41 | Ultrafast dynamics of normal and damaged DNA. , 2004, , 479-482.  |      | 0         |
| 42 | Torsional Relaxation and Friction on the Nanometer Length Scale: Comparison of Small-Molecule Rotation in Poly(dimethylsiloxane) and Poly(isobutylene). <i>Macromolecules</i> , 2003, 36, 2721-2732.                            | 4.8  | 28        |
| 43 | Sodium-Ion Binding to DNA: Detection by Ultrafast Time-Resolved Stokes-Shift Spectroscopy. <i>Journal of the American Chemical Society</i> , 2003, 125, 11812-11813.  | 13.7 | 33        |
| 44 | Ultrafast dichroism spectroscopy of anthracene in solution. IV. Merging of inertial and diffusive motions in toluene. <i>Journal of Chemical Physics</i> , 2003, 118, 7534.   | 3.0  | 7         |
| 45 | Nanoscale versus Macroscale Friction in Polymers and Small-Molecule Liquids: Anthracene Rotation in PIB and PDMS. <i>ACS Symposium Series</i> , 2003, , 177-190.  | 0.5  | 0         |
| 46 | Friction on Small Objects and the Breakdown of Hydrodynamics in Solution: Rotation of Anthracene in Poly(isobutylene) from the Small-Molecule to Polymer Limits. <i>Journal of Physical Chemistry B</i> , 2002, 106, 7385-7397. | 2.6  | 26        |
| 47 | Complex Local Dynamics in DNA on the Picosecond and Nanosecond Time Scales. <i>Physical Review Letters</i> , 2002, 88, 158101.  | 7.8  | 129       |
| 48 | BREAKDOWN OF HYDRODYNAMIC BEHAVIOR: SOLUTE ROTATIONAL DYNAMICS FROM THE SMALL-MOLECULE TO THE POLYMER LIMIT. , 2002, , .  |      | 0         |
| 49 | Some Comparisons of LIBS Measurements Using Nanosecond and Picosecond Laser Pulses. <i>Applied Spectroscopy</i> , 2001, 55, 279-285.  | 2.2  | 80        |
| 50 | Effects of Solvent Viscosity on Protein Dynamics: Infrared Vibrational Echo Experiments and Theory. <i>Journal of Physical Chemistry B</i> , 2001, 105, 1081-1092.  | 2.6  | 79        |
| 51 | Excited-State Dynamics of Oligo(p-phenyleneethynylene): Quadratic Coupling and Torsional Motions. <i>Journal of the American Chemical Society</i> , 2001, 123, 6447-6448.   | 13.7 | 167       |
| 52 | LIBS using dual- and ultra-short laser pulses. <i>Fresenius' Journal of Analytical Chemistry</i> , 2001, 369, 320-327.  | 1.5  | 125       |
| 53 | Ultrafast dichroism spectroscopy of anthracene in solution. I. Inertial versus diffusive rotation in benzyl alcohol. <i>Journal of Chemical Physics</i> , 2001, 115, 4212-4222.   | 3.0  | 23        |
| 54 | Ultrafast dichroism spectroscopy of anthracene in solution. III. Nonpolar solvation dynamics in benzyl alcohol. <i>Journal of Chemical Physics</i> , 2001, 115, 4231-4238.  | 3.0  | 13        |

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|----|---|------|-----------|
| 55 | Ultrafast dichroism spectroscopy of anthracene in solution. II. Solvation dynamics from a one-dimensional experiment. <i>Journal of Chemical Physics</i> , 2001, 115, 4223-4230.          | 3.0  | 13        |
| 56 | Raman free-induction-decay measurements in low viscosity and supercooled toluene: Vibrational dephasing by shear fluctuations. <i>Journal of Chemical Physics</i> , 2001, 114, 3662-3673. | 3.0  | 12        |
| 57 | Separating Inertial and Diffusive Rotation and Solvation for a Nonpolar Solute. <i>Springer Series in Chemical Physics</i> , 2001, , 557-559.   | 0.2  | 0         |
| 58 | Ultrafast Dynamics in DNA. <i>Springer Series in Chemical Physics</i> , 2001, , 563-565.  | 0.2  | 0         |
| 59 | Two-pulse echo experiments in the spectral diffusion regime. <i>Journal of Chemical Physics</i> , 2000, 113, 3233-3242.   | 3.0  | 32        |
| 60 | Ultrafast dynamics in DNA. , 2000, , .  |      | 0         |
| 61 | A viscoelastic continuum model of nonpolar solvation. III. Electron solvation and nonlinear coupling effects. <i>Journal of Chemical Physics</i> , 1999, 110, 8577-8588.                  | 3.0  | 32        |
| 62 | Measurement of Local DNA Reorganization on the Picosecond and Nanosecond Time Scales. <i>Journal of the American Chemical Society</i> , 1999, 121, 11644-11649.                           | 13.7 | 158       |
| 63 | A viscoelastic continuum model of non-polar solvation.. <i>Chemical Physics</i> , 1998, 233, 257-266.   | 1.9  | 27        |
| 64 | Local Dynamics in DNA by Temperature-Dependent Stokes Shifts of an Intercalated Dye. <i>Journal of the American Chemical Society</i> , 1998, 120, 2449-2456.                              | 13.7 | 86        |
| 65 | <title>Mechanical mechanism for the ultrafast perturbation of electronic states in solution</title>. , 1994, , .  |      | 0         |
| 66 | Ultrafast Raman echo experiments in the liquid phase. , 1992, , .   |      | 0         |
| 67 | Structural relaxation in liquids and glasses by transient hole burning. , 1992, 1638, 12.   |      | 0         |
| 68 | Reactions of vinylcyclopropane induced by multiphoton absorption of infrared radiation. <i>Journal of the American Chemical Society</i> , 1979, 101, 6468-6470.                           | 13.7 | 14        |