Curriculum Vitæ of Ramakrishna Ramaswamy

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Academic Degrees: Ph D in Chemistry, Princeton University, September 1978, Thesis: *Energy Transfer Processes in Molecular Systems*, Research Supervisor: H A Rabitz; M Sc (Chemistry), Indian Institute of Technology, Kanpur, May 1974; B Sc (Chemistry), Loyola College, Madras, May 1972.

Current positions:

- Visiting Professor, Department of Chemistry, IIT Delhi (2018 $\sim$).

Previous positions:

- President, Indian Academy of Sciences, Bangalore (2016–2018);
- Professor, School of Physical Sciences (1990–2018) and Professor, Center for Computational Biology and Bioinformatics (2002 –2018), Jawaharlal Nehru University, New Delhi;
- Vice Chancellor, University of Hyderabad (June 2011 - January 2015);
- Chairman, National Council of Rural Institutes, Hyderabad (April 2012 - January 2015);

- Vice President and Editor of Publications, Indian Academy of Sciences, Bangalore (2013 - 2015);
- Vice President, Indian National Science Academy, New Delhi (2015);
- Associate Professor (1986–90), School of Physical Sciences, Jawaharlal Nehru University, New Delhi;
- Fellow (1983–86), Visiting Fellow (1981–83), Tata Institute of Fundamental Research, Bombay;
- Postdoctoral Fellow, Caltech, Pasadena (1978–80).

Visiting Positions: University of Tokyo, January–February 2010; Member at The Institute for Advanced Study, Princeton, 2004–05; The Isaac Newton Institute for Mathematical Sciences, Cambridge, January–March 1994; Institute for Molecular Science, Okazaki, 1989–90.

Awards and Honors: DAE–Raja Ramanna Lecture in Physics, 2010; TIFR Alumni Association Excellence Award, 2009; Elected Fellow of TWAS, The World Academy of Sciences, 2008; The J C Bose fellowship of the Department of Science and Technology, India, 2008; Elected Fellow of the Indian National Science Academy, New Delhi, 2007; Santa Fe Institute International Fellow (2000-2001); International Center for Theoretical Physics, Trieste: Senior Associate (1996–2001); Elected Fellow of the Indian Academy of Sciences, Bangalore, 1993; International Center for Theoretical Physics, Trieste: Associate (1988–93); Indian Academy of Sciences, Bangalore, Associate (1985–88); Indian National Science Academy Medal for Young Scientists, 1985; National Science Talent Scholarship (1969–74).

Publications and research interests: About 200 journal publications and book articles relating to chemical dynamics, classical and quantum chaos, semiclassical quantization, disordered systems and statistical physics, molecular dynamics and cluster physics, computational biology and genomics.

Editorial: Editorial Board Member, *Journal of Physics. Complexity*, 2019 $\sim$; Editorial Board Member, *Journal of Nonlinear Science*, 2015 $\sim$; Manag-

ing Editor, Hindustan Book Agency, Texts and Readings in the Physical Sciences, **TRiPS**, 2000 ∼; Editor of Publications, Indian Academy of Sciences, 2013 - 2015; Associate Editor, *Pramana—journal of physics*, 2008–2012, Editorial Board Member, 1992–2007; Editorial Board Member, *Resonance—journal of science education*, 1997–2005; Editorial Board Member, *International Journal of Chemical Kinetics*, 1991–92.

Conference Organization: Dynamics Days Asia–Pacific, Chennai (2014); Perspectives in Nonlinear Dynamics, Berlin (2016), Hyderabad (2013), Bangalore (July 2010), Trieste (July 2007), Chennai (July 2004); Dynamics Day Delhi (2005 onwards); Nonlinear Waves and Turbulence, New Delhi, December 1991; Quantum Chaos, Trieste, July 1990; Nonlinear Dynamics, Bangalore, July 1987.

Administration: At Jawaharlal Nehru University: Dean, School of Physical Sciences, 1991–93, 1999–2001; Dean School of Information Technology, 2002–2004. At the University of Hyderabad: Vice Chancellor, 2011–2015.

National: Member of the Science and Engineering Research Council, Department of Science and Technology, 1998–2001. Program Advisory Committees of the DST, 1989–1995, 1998–2001. Member of the National Board for Higher Mathematics of the Department of Atomic Energy, 2006–2010. Convenor, NET examination in Physics, 2008–2015. Chairman, National Council of Rural Institutes, 2012–2015. Member of the Council of the Indian Academy of Sciences, Bangalore, 2010∼, Member of the Council of the Indian National Science Academy, New Delhi, 2015.

Funding: Grants from the Department of Science and Technology (DST), the Council for Scientific and Industrial Research (CSIR), the Rajiv Gandhi Foundation, the Department of BioTechnology (DBT).

Students: Ph. D.

1. Sudeshna Sinha, *Dynamical studies on atomic and molecular systems* (Bombay University, 1989). Now at IISER, Mohali

2. Pragya Shukla, *Symmetry breaking in quantum chaotic systems* (Jawaharlal Nehru University, 1992). (Jointly with Akhilesh Pandey, SPS).

Now at IIT Kharagpur

3. Saroj K Nayak, *Dynamics and phase change in atomic and molecular clusters* (Jawaharlal Nehru University, 1995). Now at IIT Bhubaneswar

4. Shrish Tiwari, *Studies in complexity: Applications to dynamical systems and genomic sequences* (Jawaharlal Nehru University, 1996). Now at CCMB, Hyderabad

5. Vishal Mehra, *Signatures of dynamical transitions: applications to small clusters and simple maps* (Jawaharlal Nehru University, 1998). Now at BARC, Vishakhapatnam

6. Awadhesh Prasad, *Strange nonchaotic attractors: Global stability, local instability* (Jawaharlal Nehru University, 1998). Now at Delhi University

7. Surendra S Negi, *Localization, critical states, and fractal attractors in quasiperiodic systems* (Jawaharlal Nehru University, 2001). Now at University of Houston, Galveston

8. Rajeev K Azad, *Symbolic sequences as representations of complex systems* (Jawaharlal Nehru University, 2002). (Jointly with J Subba Rao, SES). Now at University of North Texas, Denton

9. Jagtar S Hunjan, *Structure, energetics and spectra of finite atomic clusters* (Jawaharlal Nehru University, 2003).

10. Sandip Datta, *On the edge: The structure and dynamics of critical attractors* (Jawaharlal Nehru University, 2004). Now at Harvard University

11. Manish D Shrimali, *Out of sync: Spatial and temporal disorder in low-dimensional discrete dynamical systems* (Jawaharlal Nehru University, 2005). Now at Central University Rajasthan, Bandar Sindri

12. Santhosh G, *Anomalous heat conduction in one dimension* (Jawaharlal Nehru University, 2007). (Jointly with Deepak Kumar, SPS). Now at the University College, Thiruvananthapuram

13. Amitabha Nandi, *Aperiodic, Periodic and Stochastic Driving: Synchronization and Control in Nonlinear Systems* (Jawaharlal Nehru University, 2008). Now at IIT Powai

14. Vivek, *Segmentation Analysis of genomes: Statistical features and Application in molecular evolution* (Jawaharlal Nehru University, 2008). Now at University of Hyderabad

15. Kamal Rawal, *Computational approaches in the identification and characterisation of complex biological signals: Application to mobile genetic elements* (Jawaharlal Nehru University, 2008). Now at Amity Institute of Biotechnology, Noida

16. Hemant R Kushwaha, *A computational approach to understanding the signaling machinery operative under osmotic stresses in plants* (Jawaharlal Nehru University, 2009). (Jointly with Ashwani Pareek, SLS). Now at JNU, New Delhi

17. Umeshkanta Singh, *Multistability, Generalized Synchrony, and Robustness in modulated dynamical systems* (Jawaharlal Nehru University, 2010). Now at Shivaji College, University of Delhi

18. Rajat Karnatak, *Synchronization and Amplitude Death: The effects of time–delayed interactions in coupled nonlinear systems* (Jawaharlal Nehru University, 2011). Now at the Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin

19. Vikram Singh, *Coding and noncoding genes: Aspects of their identification, distribution, and regulation* (Jawaharlal Nehru University, 2011). Now at Central University of Himachal Pradesh, Dharamshala

20. Haider Hasan Jafri, *Generalized synchronization in coupled systems* (Jawaharlal Nehru University, 2013). Now at Aligarh Muslim University, Aligarh

21. Kaustubh Manchanda, *Networks of Excitable Systems: Dynamics, Characterization, and Structure* (Jawaharlal Nehru University, 2013). Now at Azim Premji University, Bangalore

22. Nirmal Punetha, *Better late: The effect of time–delay in coupled oscillators* (Jawaharlal Nehru University, 2013).

23. Avinash Chand Yadav, *Studies of Critical behavior in Sandpiles and other Cellular Automata* (Jawaharlal Nehru University, 2013). Now at Central University of Jammu, Jammu

24. Murari Singh, *Relationships between Structure, Entropy and Mobility in Simple and Anomalous Liquids* (Jawaharlal Nehru University, 2014). (Jointly with Charusita Chakravarty, IIT Delhi). Now postdoctoral at Weizmann Institute, Rehovot

25. Shakir Bilal, *Chaotic and Nonchaotic dynamics in three and higher dimensions* (Jawaharlal Nehru University, 2014). Now postdoctoral at the University of Notre Dame, Indiana

26. Rupesh Kumar, *Collective dynamics and Emergent properties of Neuronal systems* (Jawaharlal Nehru University, 2015). Now postdoctoral at École Normale Supérieure, Paris

27. Sangeeta Rani Ujjwal, *Spontaneous symmetry–breaking in oscillator networks: The emergence of chimeras* (Jawaharlal Nehru University, 2016).

28. Raviteja Donepudi, *Modelling Collective Behaviour in Biology: Computational Approaches* (University of Hyderabad, 2019). Now at Alien Technologies, Hyderabad

29. Suraj Kumar *Networks for Distribution and Storage of Renewable Energy: Building efficient energy utilisation technologies* (jointly with Saroj Nayak, IIT Bhubaneswar, 2019)

30. Amit Jangid (current student, jointly with R K Brojen Singh)

31. Kaushal Kumar Simmons (current student, jointly with Andrew Lynn)

32. Samir K Sahoo (current student, jointly with Awadhesh Prasad).

Joint supervisor of the following students of Charusita Chakravarty

33. Debdas Dhabal, *Structure-Property Relationships in Complex Fluids: The role of Simulations* (Indian Institute of Technology, Delhi, 2017) (Jointly with Hemant Kashyap, IIT Delhi).

34. Saurav Prasad, *Computer Simulations of Aqueous solutions and Nanoparticle Dispersions* (Indian Institute of Technology, Delhi, 2017) (Jointly with Hemant Kashyap, IIT Delhi).

35. Hari Om Sharanam Yadav, *Solvation and Self-assembly of Nanoparticles: A Computational Study* (Indian Institute of Technology, Delhi, 2018) (Jointly with Samir Sapra, IIT Delhi).

M. Tech./ M. Phil.

- Dhiman Das, Amita Joshi, Rakesh Pandey, Arvind Mer, Suraj Kumar, Ravishankar Pandey.

Postdoctoral associates: Anandamohan Ghosh (NCL, Pune); Ashutosh Sharma (Pune University); N Sivapalan (Jaffna University); Nandini Chatterjee (Pune University); Gautam Aggarwal (JNU); Bibhu Biswal (JNU); R K Brojen Singh (JNU); Alok Srivastava (JNU).

Personal details: Date of Birth: 14 October 1953; Indian citizen; m. Charusita Chakravarty; Children: Rohan Ananda, Krithi Dakshina.

Ram Ramaswamy's publications in peer–reviewed journals:

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1. *Vibration-rotation relaxation in bimolecular collisions with application to para-Hydrogen*
   R Ramaswamy and H Rabitz
   Journal of Chemical Physics 1977; **66**: 152–159

2. *Electronic momentum distributions and Compton profiles of some molecules with FSGO model*
   S Gadre, R Ramaswamy and P T Narasimhan
   Pramana Journal of Physics 1977; **8**: 99–107

3. *Low-temperature relaxation in gaseous H_2 and D_2*
   R Ramaswamy, H Rabitz and S Green
   Journal of Chemical Physics 1977; **66**: 3021–3030

4. *Collisional excitation of interstellar molecules: H_2*
   S Green, R Ramaswamy and H Rabitz
   Astrophysical Journal (Supplement Series) 1978; **36**: 483–496

5. *Rotational inelasticity in high-energy H_2–H_2 collisions*
   R Ramaswamy, H Rabitz and S Green
   Chemical Physics 1978; **28**: 319–329

6. *Stochastic theory of intramolecular energy transfer*
   R Ramaswamy, S Augustin and H Rabitz
   Journal of Chemical Physics 1978; **69**: 5509–5517

7. *Stochastic theory of collisions: Application to vibration–rotation inelasticity in CO–He*
   R Ramaswamy, S Augustin and H Rabitz
   Journal of Chemical Physics 1979; **70**: 2455–2462

8. *Quantum number and energy scaling for non-reactive collisions*
   A E DePristo, S D Augustin, R Ramaswamy and H Rabitz
   Journal of Chemical Physics 1979; **71**: 850–865

9. *On the correlation of relaxation data: A Scaling–theoretical analysis*
   R Ramaswamy, A E DePristo and H Rabitz
   Chemical Physics Letters 1979; **61**: 495–498

10. *Dynamics of van der Waals molecules: A Scaling–theoretical analysis of I_2^*–He*
R Ramaswamy and A E DePristo
Journal of Chemical Physics 1980; **72**: 770–771 (L)

11. *Semiclassical quantization of multidimensional systems*
R Ramaswamy, P Siders and R A Marcus
Journal of Chemical Physics 1980; **73**: 5400–5401 (L)

12. *Classical methods in molecular scattering: A continuous quantization procedure*
R Ramaswamy and A E DePristo
Chemical Physics Letters 1981; **77**: 190–194

13. *Perturbative examination of avoided crossings*
R Ramaswamy and R A Marcus
Journal of Chemical Physics 1981; **74**: 1379–1384

14. *The onset of chaotic motions in deterministic systems*
R Ramaswamy and R A Marcus
Journal of Chemical Physics 1981; **74**: 1385–1393

15. *Continuous quantization procedure in quasiclassical scattering: Application to atom-Morse oscillator collisions*
R Ramaswamy
Pramana Journal of Physics 1981; **16**: 139–146

16. *A Simple classical model of infrared multiphoton dissociation*
R Ramaswamy, P Siders and R A Marcus
Journal of Chemical Physics 1981; **74**: 4418–4425

17. *Concerning the scaling behaviour in the classical mechanics of non-reactive collisions: An analytic investigation*
A E DePristo and R Ramaswamy
Chemical Physics 1981; **57**: 129–140

18. *Chaotic motions in vibrating molecules: The generalized Hénon-Heiles model*
R Ramaswamy
Chemical Physics 1983; **76**: 15–24

19. *Scaling behaviour in collinear atom-diatom collisions: energy transfer from high vibrational states*
R Ramaswamy and R Bhargava
Journal of Chemical Physics 1984; **80**: 1095–1102

20. *The Scaling principle in classical inelastic collisions*
R Ramaswamy
Journal of Chemical Physics 1984; **80**: 2462–2463

21. *Classical trajectory analysis: Continuous quantization and scaling in collinear atom-triatom collisions*
R Ramaswamy
Chemical Physics 1984; **88**: 7–16

22. *Collision dynamics of nonintegrable systems: Validity of classical Scaling*
R Ramaswamy
Chemical Physics 1984; **88**: 17–25

23. *Quasiperiodic quantum states*
R Ramaswamy
Journal of Chemical Physics 1984; **80**: 6194–6199

24. *A semiclassical quantization using arbitrary trajectories*
R Ramaswamy
Journal of Chemical Physics 1985; **82**: 747–751

25. *Classical diffusion on Eden trees*
D Dhar and R Ramaswamy
Physical Review Letters 1985; **54**: 1346–1349

26. *Quantal information from classical trajectories: Scaling deconvolution of moments in diatom-diatom collisions*
R Bhargava and R Ramaswamy
Chemical Physics 1985; **95**: 253–261

27. *Rotational energy transfer in HF-Li collisions*
K Raghavan, S Upadhyay, N Sathyamurthy and R Ramaswamy
Journal of Chemical Physics 1985; **83**: 1573–1577

28. *Escape times in interacting biased random walks*
M Barma and R Ramaswamy
Journal of Statistical Physics 1986; **43**: 561–570

29. *On backbends on percolation backbones*
M Barma and R Ramaswamy
Journal of Physics A 1986; **19**: L605–L611

30. *Scaling of moments in rotational inelasticity*
S Sinha and R Ramaswamy
Chemical Physics Letters 1987; **135**: 153–158

31. *Transport in random networks in a field: Interacting particles*
R Ramaswamy and M Barma
Journal of Physics A 1987; **20**: 2973–2987

32. *On the dynamics of a controlled metabolic network and cellular behaviour*
S Sinha and R Ramaswamy
BioSystems 1987; **20**: 341–354

33. *Fractal eigenfunctions in a (classically) nonintegrable Hamiltonian system*
R Ramaswamy and S Swaminathan
Europhysics Letters 1987; **4**: 127–131

34. *Complex behaviour of the repressible Operon*
S Sinha and R Ramaswamy
Journal of Theoretical Biology 1988; **132**: 307–318

35. *Semiclassical quantization of resonant systems*
S Sinha and R Ramaswamy
Molecular Physics 1989; **67**: 335–345

36. *Dimension analysis of climatic data*
T R Krishna Mohan, J Subba Rao and R Ramaswamy
Journal of Climate 1989; **2**: 1047–1057
Dimension analysis of climatic data–Reply
Journal of Climate 1990; **3**: 1506–1507

37. *Limits of weak damping of a quantum harmonic oscillator*
A O Caldeira, H A Cerdeira and R Ramaswamy
Physical Review A 1989; **40**: 3438–3440

38. *Spectral rigidity in atomic Uranium*
S Sinha and R Ramaswamy
Journal of Physics B 1989; **22**: 2985–2990

39. *An exactly solved model of self-organized critical phenomena*
D Dhar and R Ramaswamy
Physical Review Letters 1989; **63**: 1659–1663

40. *Adaptive control in nonlinear dynamics*
S Sinha, R Ramaswamy and J Subba Rao
Physica D 1990; **43**: 118–128

41. *Level spacings for harmonic oscillator systems*
A Pandey and R Ramaswamy
Physical Review A 1991; **43**: 4237–4243

42. *Long time fluctuations of liquid water: $1/f$ spectrum of energy fluctuations in hydrogen-bond network rearrangement dynamics*
M Sasai, I Ohmine and R Ramaswamy
Journal of Chemical Physics 1992; **96**: 3045–3053

43. *Scaling behaviour in disordered sandpile automata*
B Tadić, U Nowak, K Usadel, R Ramaswamy and S Padlewski
Physical Review A 1992; **45**: 8536–8543

44. *Decoupling surface analysis of classical irregular scattering and classification of its icicle structure*
K Someda, R Ramaswamy and H Nakamura
Journal of Chemical Physics 1993; **98**: 1156–1169

45. *Symmetry-breaking in quantum chaotic systems*
A Pandey, R Ramaswamy and P Shukla
Pramana Journal of Physics 1993; **41**: L75–81

46. *Signatures of chaos in quantum billiards: Microwave experiments*
A Kudrolli, S Sridhar, A Pandey and R Ramaswamy
Physical Review E 1994; **49**: R11–14

47. *Complex dynamics of atomic clusters*
S Nayak and R Ramaswamy
Proceedings of the Indian Academy of Sciences (Chemical Sciences) 1994; **106**: 521

48. *Field–induced transport in random media*
M Barma and R Ramaswamy
in *Nonlinearity and Breakdown in Soft Condensed Matter*, Eds. B K Chakrabarti, K K Baradhan and A Hansen, (Springer-Verlag, Berlin, 1994), pp. 312–33

49. *Melting of $(Ar–Xe)_{13}$ clusters: Surface-core effects*
S K Nayak and R Ramaswamy
Journal of Physical Chemistry 1994; **98**: 9260–9264

50. *Coarsening in a driven diffusive system with two species*
J Kertész and R Ramaswamy
Europhysics Letters 1994; **28**: 617–622

51. *The maximal Lyapunov exponent in small atomic clusters*
S K Nayak, R Ramaswamy and C Chakravarty
Physical Review E 1995; **51**: 3376–3380

52. *$1/f$ Spectra in finite atomic clusters*
S K Nayak, R Ramaswamy and C Chakravarty
Physical Review Letters 1995; **74**: 4181–4184

53. *Locally coupled maps on trees*
P M Gade, H Cerdeira and R Ramaswamy
Physical Review E 1995; **52**: 2478–2485

54. *Overcoming the zero-point dilemma in quasiclassical trajectories— (He,H_2^+) as a test case*
S Kumar, N Sathyamurthy and R Ramaswamy
Journal of Chemical Physics 1995; **103**: 6021–6028

55. *Nosé-Hoover dynamics of a nonintegrable Hamiltonian*
S Tiwari and R Ramaswamy
Journal of Molecular Structure: THEOCHEM 1996; **361**: 111-116

56. *Adaptive control in a model of resource management*
S Tiwari, R Ramaswamy and J Subba Rao
Ecological Modelling 1996; **84**: 53-62

57. *Pairwise balance and invariant measures for generalised exclusion processes*
G Schütz, R Ramaswamy and M Barma
Journal of Physics A 1996; **29**: 836–843

58. *Quantum chaos in collinear (He,H_2^+) collisions*
S Mahapatra, R Ramaswamy and N Sathyamurthy
Journal of Chemical Physics 1996; **104**: 3989–95

59. *Maximal Lyapunov exponent at crises*
V Mehra and R Ramaswamy
Physical Review E 1996; **53**: 3420–24

60. *Defects in self–organized criticality: A directed coupled map lattice sandpile*
B Tadić and R Ramaswamy
Physical Review E 1996; **54**: 3157–64

61. *Solid $\rightleftharpoons$ liquid transition in model $(HF)_n$ clusters*
S Nayak and R Ramaswamy
Molecular Physics 1996; **89**: 809

62. *Backbones of traffic jams*
H S Gupta and R Ramaswamy
Journal of Physics A 1996; **29**: L547–53

63. *Instantaneous normal mode spectra of quantum clusters*
C Chakravarty and R Ramaswamy
Journal of Chemical Physics 1997; **106**: 5564–70

64. *Prediction of probable genes by Fourier analysis of genomic sequences*
S Tiwari, S Ramachandran, S Bhattacharya, A Bhattacharya and R

Ramaswamy
Computer Applications in Biosciences 1997; **13**: 263–270

65. *Curvature fluctuations and the Lyapunov exponent at melting*
V Mehra and R Ramaswamy
Physical Review E 1997; **56**: 2508–17

66. *Intermittency route to strange nonchaotic attractors*
A Prasad, V Mehra and R Ramaswamy
Physical Review Letters 1997; **79**: 4127–30

67. *Synchronization of strange nonchaotic attractors*
R Ramaswamy
Physical Review E 1997; **56**: 7294–96

68. *Strange nonchaotic attractors in the quasiperiodically forced logistic map*
A Prasad, V Mehra and R Ramaswamy
Physical Review E 1998; **57**: 1576–84

69. *Targeting chaos through adaptive control*
R Ramaswamy, S Sinha and N Gupte
Physical Review E (Rapid Communication) 1998; **57**: 2506–9

70. *Gapless coexisting phases in heterogenous atomic clusters: $(Ar–Xe)_{13}$*
V Mehra, A Prasad and R Ramaswamy
Journal of Chemical Physics 1999; **110**: 501–508

71. *Prediction of genes in bacterial and plastid genomes using* `GeneScan`
S Ramachandran and R Ramaswamy
Computers and Chemistry 1999; **23**: 165–74

72. *Characteristic distributions of finite–time Lyapunov exponents*
A Prasad and R Ramaswamy
Physical Review E 1999; **60**: 2761–9

73. *Collision and symmetry–breaking in the transition to strange nonchaotic attractors*
A Prasad, R Ramaswamy, I I Satija and N Shah
Physical Review Letters 1999; **83**: 4530–33

74. *Dynamics of a shallow fluidized bed*
L S Tsimring, R Ramaswamy, and P Sherman
Physical Review E 1999; **60**: 7126–30

75. *Identification of parasite genes by computational methods*
A Bhattacharya, S Bhattacharya, A Joshi, S Ramachandran and R Ramaswamy
Parasitology Today 2000; **16**: 127–31

76. *Intermittency transitions to strange nonchaotic attractors in a quasiperiodically driven Duffing oscillator*
A Venkatesan, M Lakshmanan, A Prasad and R Ramaswamy
Physical Review E 2000; **61**: 3641–51

77. *Melting of the glassy mixed cluster,* Ar_9Xe_{10}
J S Hunjan and R Ramaswamy
Indian Journal of Chemistry A 2000; **39**: 201–206

78. *Bifurcations and transitions in the quasiperiodically driven logistic map*
S S Negi, A Prasad, and R Ramaswamy
Physica D 2000; **145**: 1–12

79. *A plethora of strange nonchaotic attractors*
S S Negi and R Ramaswamy
Pramana Journal of Physics 2001; **56**: 47–56

80. *Critical States and Fractal Attractors in Fractal Tongues: Localization in the Harper potential*
S S Negi and R Ramaswamy
Physical Review E (Rapid Communication) 2001; **64**: 045204(R)

81. *Global Optimization by Adiabatic Switching*
J S Hunjan and R Ramaswamy
International Journal of Molecular Science 2002; **3**: 30-37

82. *Information–entropic analysis of chaotic time series: determination of time-delays and dynamical coupling*
R K Azad, J Subba Rao and R Ramaswamy
Chaos, Solitons and Fractals 2002; **14**: 633–41

83. *Ab–initio gene prediction: Prokaryote Genome annotation with GLIMMER and GeneScan*
G Aggarwal and R Ramaswamy
Journal of Biosciences (Supplement 1) 2002; **27**: 7–14

84. *Phase Ordering at Crises*
M Shrimali and R Ramaswamy
Physics Letters A 2002; **295**: 273

85. *Segmentation of Genomic DNA through entropic divergence: Power–laws and scaling*
R K Azad, P Bernaola-Galván, R Ramaswamy, and J Subba Rao
Physical Review E 2002; **65**: 051909
Virtual Journal of Biological Physics Research **3**, May 15, 2002

86. *Simplifying the mosaic description of DNA sequences*
R K Azad, J Subba Rao, W Li, and R Ramaswamy
Physical Review E 2002; **66**: 031913
Virtual Journal of Biological Physics Research **3**, October 1, 2002

87. *Global Optimization on an Evolving Landscape*
J S Hunjan, S Sarkar, and R Ramaswamy
Physical Review E 2002; **66**: 046704

88. *Symmetry–breaking in local Lyapunov exponents*
R Ramaswamy
European Journal of Physics B 2002; **29**: 339–343

89. *Signatures of multiple timescale behaviour in the power spectra of water*
A Mudi, R Ramaswamy, and C Chakravarty
Chemical Physics Letters 2003; **376**: 683–89

90. *Thermodynamics of Critical Strange Nonchaotic Attractors*
S Datta, A Sharma, and R Ramaswamy
Physical Review E 2003; **68**: 036104

91. *Strange nonchaotic attractors in driven excitable systems*
A Prasad, B Biswal, and R Ramaswamy
Physical Review E 2003; **68**: 037201

92. *Non–gaussian fluctuations of local Lyapunov exponents at intermittency*
S Datta and R Ramaswamy
Journal of Statistical Physics 2003; **113**: 283–95

93. *Symbol sequence analysis of climatic time signals*
R Azad, J Subba Rao, and R Ramaswamy
Nonlinear Analysis: Real World Applications 2004; **5**: 487-500

94. *Approach to equilibrium in adiabatically evolving potentials*
H S Samanta, J K Bhattacharjee, and R Ramaswamy
Physical Review E 2004; **69**: 056114

95. *Spectral Repeat Finder (SRF): Identification of repetitive sequences using Fourier transformation*
D Sharma, B Issac, G P S Raghava, and R Ramaswamy
Bioinformatics 2004; **20**: 1405–12

96. *On the dynamics of the critical Harper map*
S Datta, T Jäger, G Keller, and R Ramaswamy
Nonlinearity 2004; **17**: 2315–2323

97. *The role of heterogeneity on the spatiotemporal dynamics of host–parasite metapopulation*
B K Singh, J Subba Rao, R Ramaswamy, and S Sinha
Ecological Modelling 2004; **180**: 435–43

98. *Fractalization route to strange nonchaotic dynamics*
S Datta, R Ramaswamy, and A Prasad
Physical Review E 2004; **70**: 046203-1–9

99. *Cluster–weighted modeling: estimation of the Lyapunov spectrum in driven systems*
A Ghosh and R Ramaswamy
Physical Review E 2005; **71**: 016224-1–6

100. *Spectral Signatures of the Diffusional Anomaly in Water*
A Mudi, C Chakravarty, and R Ramaswamy
Journal of Chemical Physics 2005; **122**: 104507-1–8
Erratum, Journal of Chemical Physics 2006; **124**: 069902

101. *The phase–modulated logistic map*
A Nandi, D Datta, J K Bhattacharjee, and R Ramaswamy
Chaos 2005; **15**: 023107-1–9

102. *The LINEs and SINEs of Entamoeba histolytica: Comparative analysis and genomic distribution*
A A Bakre, K Rawal, R Ramaswamy, A Bhattacharya, and S Bhattacharya
Experimental Parasitology 2005; **110**: 207–213

103. *Thermal transport in low dimensional lattices with nearest and next-nearest-neighbour interactions*
Santhosh G, D Kumar, and R Ramaswamy
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