

List of Publications of Anjan Kundu

- [1] Anjan Kundu, arXiv:0711.0878 (sub J Phys a (fast track comm))
Nonlinearizing linear equations to integrable systems including new hierarchies with source terms
- [2] Ismagil Habibullin and Anjan Kundu, Nucl. Phys B (2007)
(in press: doi:10.1016/j.nuclphysb.2007.11.022)
Quantum and classical integrable sine-Gordon model with defect
- [3] Anjan Kundu, Phys Rev Lett. 99. 154101 (2007)
Shape changing and accelerating solitons in integrable variable mass sine-Gordon model
(URL: <http://link.aps.org/abstract/PRL/v99/e154101>)
- [4] Anjan Kundu, SIGMA 3 (2007), 040, 14 pages(Vadim Kuznetsov memorial volume)
q-boson in quantum integrable systems
- [5] Anjan Kundu, Theor. Math. Phys. 151 (3), 832-843 (June, 2007) (nlin.SI/0609001)
Yang-Baxter algebra and generation of quantum integrable models
- [6] Anjan Kundu,
Integrable hierarchy of higher nonlinear Schrödinger type equations SIGMA 2 (2006), 078, 12 pages;
- [7] K. Chandrasekar, M. Senthilvelan Anjan Kundu and M. Lakshmanan, J Phys A, 39 (2006)9743-54 (10945-Erratum)
A nonlocal connection between certain linear and nonlinea differential equations/oscillators
- [8] Anjan Kundu, Phys. Lett B 633 (2006) 657-63
Unifying quantization for inhomogeneous integrable models
- [9] A. Kundu, Phys. Lett A 350 (2006) 210-3
Integrable multi atom matter-radiation models without rotating wave approximation
- [10] A. Kundu, Theor Math Phys (Soviet J.) 144 (2005) 975-984
Quantum integrable multi atom matter-radiation models with and without rotating wave approximation
- [11] Anjan Kundu, J.Phys. A 37 (2004) L281
Quantum integrability and Bethe ansatz solution for interacting matter-radiation systems
- [12] Anjan Kundu, J Math Phys 44 (2003) 4589 *Unifying scheme for generating discrete integrable systems including inhomogeneous and hybrid models* nlin.SI/0212004

- [13] B. Basu-Mallick, T. Bhattacharyya and Anjan Kundu, Czech. J. Phys. 54 (2003) 5-12
Bound and scattering states of extended Calogero model with an additional PT invariant interaction
- [14] Anjan Kundu, Physica A 318 (2003) 144-153
Generation of new classes of integrable quantum and statistical models cond-mat/0204495
Chapter in Book:
- [15] Anjan Kundu in *Classical and Quantum Nonlinear Integrable Systems* (IOP Publishing, Bristol, UK, 2003), p. 147-181:
Unifying approaches in integrable systems: Quantum and Statistical, Ultralocal and Nonultralocal
- [16] Anjan Kundu, (Phys. Lett B 550 (2002) 128-34
Ultralocal solutions for nonultralocal integrable models hep-th/0208147
- [17] Anjan Kundu, J. Phys. A35 (2002) L447-L453
New series of integrable vertex models through a unifying approach cond-mat/0204470
- [18] Anjan Kundu, J. Phys. A35 (2002) L125-L132
Consistent refinement of Bethe strings for spin and electron models and a new non-Bethe solution cond-mat/0108175
- [19] Anjan Kundu, Nucl. Phys. B618 (2001) 500-522
Integrability and exact solution of correlated hopping multi-chain electron systems(cond-mat/0106345)
- [20] B. Basu-Mallick and Anjan Kundu, Phys. Lett A279 (2001) 29
Exact solution of a many body problem with nearest and next-nearest neighbour interactions (cond-mat/0008199)
- [21] Anjan Kundu, J. Nonlin. Math. Phys. 8 (2001) 178 *Construction of variable mass sine-Gordon and other novel inhomogeneous quantum integrable models*
- [22] B. Basu-Mallick and Anjan Kundu, Phys. Rev., B62 (2000) 9927
Exact solution of Calogero model with competing long-range interactions (cond-mat/0003425)
- [23] Anjan Kundu, J. Math.Phys. , 41 (2000) 721
Exact solution of quasi two and three dimensional quantum spin models Ref: cond-mat/9711185
- [24] Anjan Kundu, Reports. on Mathematical Physics, 46 (2000), 125-136
Algebraic construction of quantum integrable models including inhomogeneous models
- [25] Holger Frahm and Anjan Kundu, J. Phys C 11 (1999) L557-62 (cond-mat/9910104)
Phase diagram of an exactly solvable t-J ladder model

- [26] R. Radhakrishnan, Anjan Kundu and M. Lakshmanan, Phys. Rev E, 60,(1999) 3314
Coupled nonlinear Schrödinger equations with cubic-quintic nonlinearity: integrability and soliton interaction in non-Kerr media
- [27] S. Ghosh, Anjan Kundu and S. Nandy, J. Math. Phys. 40 (1999) 1993 solv-int/9904018)
Soliton solutions, Liouville integrability and gauge equivalence of Sasa Satsuma equation
- [28] Anjan Kundu, Phys. Rev. Lett., 83 (1999) 1275
Exact solution of double-delta function Bose gas through interacting anyon gas hep-th/9811247
- [29] Anjan Kundu, Phys. Rev. Lett., 82 (1999) 3936
Algebraic approach in unifying quantum integrable models hep-th/9810220
- [30] Anjan Kundu, Teor. Mat. Fiz. (Soviet Journal TMP) 118 (1999) 423-33
Construction of a new class of inhomogeneous quantum integrable models
- [31] Anjan Kundu Indian J. Phys. 72 B (1998)
Unifying structures in quantum integrable systems Ref: solv-int/9710018, (Invited review)
- [32] Anjan Kundu, Phys. Lett. A 249 (1998) 126-32
Exactly integrable family of generalized Hubbard models with twisted Yangian symmetry Ref: cond-mat/9710033,
- [33] B. Basu-Mallick and Anjan Kundu, Nucl. Phys. B 509 [FS] (1998) 705-728
Multi-parameter deformed and nonstandard $Y(gl_M)$ Yangian symmetry in a novel class of spin Calogero-Sutherland models
- [34] L Hlavaty (Prague Tech Uni) and Anjan Kundu, Int J. Mod. Phys. A vol 11, 2143-2165 (1996),
Quantum Integrability of Nonultralocal Models through Baxterisation of Quantised Braided algebra
- [35] A Ghosh , P Mitra and Anjan Kundu , J Phys 29 A, 115-124 (1996),
Multidimensional isotropic and anisotropic Q-oscillator models
- [36] Anjan Kundu , Mod Phys Lett A 10, 2955-2966 (1995)
Exact Bethe ansatz solution of nonultralocal quantum mKdV model
- [37] B Basumallick and Anjan Kundu , Mod Phys Lett A (1995), vol 10, no. 10
Algebraic aspect and construction of Lax operators in quantum integrable system
- [38] Anjan Kundu, Walter Strampp (Uni-Kassel) and W. Oevel (Uni-Padeborn) Journal of Math. Physics , vol. 36 (1995) p. 2972-2984
New integrable hierarchies gauge generated from constrained KP

- [39] Anjan Kundu and Walter Strampp (Uni-Kassel) *Journal of Math. Phys.* vol 36 (1995) p. 4192-4202
Derivative and higher order extensions of Davey-Stewartson equation from matrix KP hierarchy
- [40] Anjan Kundu and P.Truini (Uni-Genova), *J. Phys.A* vol 28 (1995) p. 4089-4108
Universal R-matrix of reductive Lie algebras
- [41] Anjan Kundu and J. Ng (N. Carolina) , *Phys. Lett. A* , vol 197 (1995) p. 221
Deformation of angular momentum and its application to the spectra of triatomic molecules,
- [42] Anjan Kundu, (invited review in the special issue "Solitons in Science and Engineering: Theory and Applications") *Chaos Soliton and Fractals* (Pargamon Press), vol. 5, n0. 12 (1995) p. 2329-2344
Origin of quantum group and its application in integrable systems
- [43] Anjan.Kundu & O.Ragnisco (Uni-Rome) , *J.Phys. A* (UK), 27 (1994) 6335
A simple lattice variant of NLSE and its deformation with exact quantum solution
- [44] A. Kundu *Phys.Lett. A* 190 (1994) 79-84
Generation of a quantum integrable class of discrete-time or relativistic periodic Toda chains
- [45] B Basu-Mallick and A Kundu *J.Phys.A* (UK) ,**27**, 3091-104 (1994):
Coloured FRT algebra and its Yang-Baxterisation leading to integrable models with non-additive R-matrix.
- [46] Anjan Kundu, *Theor.Math.Phys.*, vol 99, no.3, p. 428-34 (1994)
Classical integrable lattice models through quantum group related formalism
- [47] A Kundu & B Basu-mallick *J.Math.Phys.(USA)* ,**34**,1252 (1993):
Classical and Quantum integrability of a novel derivative NLS model related to quantum group structures.
- [48] A Kundu & B Basu-Mallick *J.Phys.A* (UK) ,**25**, 6307 (1992):
Solutions of the nonadditive YBE by spectral parameter factorization and re-Yang-Baxterization
- [49] B Basumallick & A Kundu *Physics Letters B* ,**287**,149-53 (1992):
Hidden quantum group structure in a relativistic quantum field model
- [50] B Basumallick & A Kundu to *J. Phys.A* (UK),**25**,4147-56 (1992) *Spectral papameter dependent approach to quantised algebra,its multiparameter deeformation and their q-oscillator realisations*
- [51] A Kundu & B Basu Mallick *Mod.Phys.Lett. A* ,**7**,61-9 (1992)
Construction of integrable quantum lattice models through Sklyanin like algebras

- [52] A Kundu *Indian J. Phys.*, **66A**, 531-43 (1992) : In search of some unifying symmetry through quantum groups in integrable and conformal theories
- [53] Anjan Kundu & B Basu Mallick *Phys Letters A* ,**156**,175-8 (1991) ; q-Deformation of Holstein- Primakoff transformation and other bosonisation of quantum group
- [54] B Basu Mallick and Anjan Kundu *Modern Physics Letters A* ,**6**,701-6 (1991) ; Single q-oscillator mode realisation of the quantum group through canonical bosonisation of SU(2) and q-oscillators
- [55] Anjan Kundu & B. Basu Mallick *J.Phys.Soc.Japan* , **59**,1560-70 (1990) ; Investigation of the Hamiltonian structure of the KdV system through r-s matrixnormalism revealing some new aspects
- [56] Anjan Kundu & B. Basu Mallick *J. Phys.*,**A23**, L709-12 (1990) ; Relating different Poisson brackets of the KdV system to various symmetry conditions of the model
- [57] B. Basu Mallick & Anjan Kundu *Phys. Lett.(Netherland)*, **A 145**, 120-6 (1990): FT and APP brackets for the KdV system through Dirac's constrained Hamiltonian formalism
- [58] S. Ghosh & Anjan Kundu *Phys. Rev. Lett.(USA)*, **63**, 1207-10 (1989): Test of integrability for SU(2) nonlinear σ - models
- [59] B. Basu Mallick & Anjan Kundu *Phys. Lett.*,**A 135**, 113-6 (1989) : Levinson-type theorem for the KdV system and its consequences
- [60] Anjan Kundu *Inverse Problems (UK)*, **4**, 1143-4 (1988): Comments on the Eckhaus PDE
- [61] Anjan Kundu & S. Ghosh *J. Phys. (UK)*,**A21**, 3951-61 (1988): Soliton and breather states of quantum SG model in light cone coordinates through exact QIST method
- [62] Anjan Kundu *J. Phys. (UK)*, **A 21**, 945-53 (1988): Integrability of classical and semiclassical DNLS with nonultralocal canonical structure
- [63] Anjan Kundu *Physica A (Nethrland)*,**144A**, 418-29 (1987): General soliton and soliton-polaron in continuum polyacetylene model through IST
- [64] Anjan Kundu *J. Phys. (UK)*,**20A**, 1107-14 (1987): Explicit auto-Backlund transformation through gauge transformation
- [65] Anjan Kundu *Physica D (Netherland)*,**25D**, 399-406 (1987): Exact solutions in higher order nonlinear equations through gauge transformation
- [66] Anjan Kundu *Phys. Lett. (Netherland)*,**B171**,67-70 (1986) : Hedgehog and toroidal solitons in the Skyrme model

- [67] Anjan Kundu *J. Phys. (UK)*, **19A**, 1303-10 (1986):
Gauge equivalence of σ -models with noncompact Grassmannian manifold
- [68] Anjan Kundu *Phys. Lett.*, **A113**, 215-7 (1985):
Comments on a set of S3 equations
- [69] Anjan Kundu *J. Math. Phys. (USA)*, **25**, 3433-8 (1984) :
Landau-Lifshitz and higher order nonlinear systems gauge generated from NLS type equations
- [70] Anjan Kundu *Indian J. Pure & Appl. Phys.*, **22**, 441-6 (1984):
On NLS equation and gauge connected CHSC
- [71] Anjan Kundu *Physics Teacher*, **26**, 63-73 (1984):
Charge-energy relationship in topological field models
- [72] Anjan Kundu & L. Kundu *J. Phys. (UK)* **C16**, 5867-74 (1983):
Soliton excitation in many chained magnetic structures
- [73] Anjan Kundu & O. Pashaev *J. Phys. (UK)*, **C16**, L585-90 (1983):
Comments on the gauge equivalence between CHSC with single site anisotropy and NLSE
- [74] Anjan Kundu, B V. Makhankov & O. Pashaev *Physica Scripta (Sweden)*, **28**, 229-34 (1983):
Integrable reduction of many component magnet system in (1,1) dimension
- [75] Anjan Kundu & V. Makhankov *Physica D (Netherland)*, **D11**, 375-80 (1984):
On nonlinear effects in magnetic chains
- [76] Anjan Kundu *Lett. Math. Phys. (Netherland)*, **6**, 479-85 (1982):
On σ -models with noncompact groups
- [77] Anjan Kundu *Phys. Lett. (Netherland)*, **B110**, 61-3 (1982) :
Instanton in anisotropic sigma-models
- [78] Anjan Kundu *Annals of Phys. (USA)*, **139**, 36-47 (1982):
Construction of nonlinear σ -models in two and higher space-dimensions
- [79] Anjan Kundu *Acta Phys. Austriaca*, **54**, 7-12 (1982):
Nonlinear field models with nontrivial topological charges in three space dimensions
- [80] Anjan Kundu & Yu.P. Rybakov *J. Phys. (UK)*, **A25**, 269-75 (1983):
Closed vortex-type solution with Hopf index
- [81] Anjan Kundu *Canadian J. Phys.*, **59**, 1609-13 (1981):
On a gauge-generalization of a nonlinear σ -model with nonvanishing Hopf invariant
- [82] Anjan Kundu *Indian J. Pure & Appl. Phys.*, **20**, 872-4 (1982):
Spherically nonsymmetric exact soliton solutions with unit topological charge

- [83] D.D. Grachov & Anjan Kundu *Indian J. Pure & Appl. Phys.*, **20**, 393-4 (1982):
Generalized commutation relation in spinor electro dynamics
- [84] Anjan Kundu *Indian J. Phys.*, **57A**, 1-5 (1983):
Spherically nonsymmetric topological solitons in three space dimensions
- [85] Anjan Kundu *Indian J. Phys.*, **54A**, 399-401 (1980):
Exact soliton solution with unit topological charge
- [86] Anjan Kundu *Indian J. Phys.*, **55A**, 197-8 (1981):
A circular nonsymmetric exact soliton solution with unit topological charge
- [87] Anjan Kundu *Indian J. Pure & Appl. Phys.*, **19**, 138-40 (1981):
Soliton solution with nontrivial Hopf invariant on an intermediate S^3 manifold
- [88] Anjan Kundu, Yu.P. Rybakov & V.I. Sanyuk *Indian J. Pure & Appl. Phys.*, **17**, 673-7 (1979):
Topological solitons in the Skyrme gauge model
- [89] Anjan Kundu, Yu.P. Rybakov & V.I. Sanyuk *Problems of Gravitation & Elementary particles* (Atomizdat, Moscow), **11**, 14-22 (1980) (in Russian):
Soliton solution with topological charges

II. Papers published in Books, Conf.Proc., Scientific Serials etc.

- [1] Anjan Kundu , in *Nonlinear Dynamics: Integrability and Chaos* (Narora Publication, 2000, N Delhi , Eds: M. Daniel et al))
p. 95: *Unifying algebraic structures in integrable systems*
- [2] *ibid* p. 147: *Towards constructing higher dimensional quantum integrable models*
- [3] Anjan Kundu *Quantum Integrable Systems: Basic Concepts and Brief Overview* hep-th/9708114, (Proc. Hep-Dae, Gauhati'96), *Indian J. Phys.* 6 (1998) 663-77
- [4] Anjan Kundu *Generation of nonultralocal models* , *Proc. Int. Conf. 'Problems in QFT'* (May,1996, Alushta, Ukraine) (JINR,Dubna, 1997)
- [5] *Universality of the universal R-matrix and applications to quantum integrable systems*, Anjan Kundu : *Proc. Int. Conf. 'Generalised Symmetries in Physics'* (July 26-29,1993,ASI,Clausthal,C) W. Scieltific, Singapore, 1994, p.304
- [6] A Kundu and B.Basumallick *Proc. of Int.conf.NEEDS'91,Gallipoli Gg (Italy),1991* (Ed.M.Boiti,L.Martina and F.Pompinelli ,World Sc.,1992),p.357:Quantum Group Structures in Action
- [7] A Kundu in *Modern Quantum Field Theory* ,Proc.of Int.Colloquium (TIFR,Bombay) (World Sc.,ed.A Das et al, 1991) p.336-43 Towards understanding the relationship between integrable systems and conformal theories

- [8] A. Kundu & B. Basu Mallick in *Symmetries and singularity structure aspect of nonlinear dynamical system* Proc.of the Workshop (Bhar.Univ.,Trichy) (Springer Verlag, ed.M Lakhshmanan et al, 1990),p. 153-9:
Integrable quantum spin chains and some problems related to integrable systems
- [9] A Kundu & B Basu Mallick in *Nonlinear Evolution equation of dynamical systems* Proc. of the Int.Conf.(Como,Italy (Manchester Univ.Press,ed. A Fordy et al,1990)p.451-6
On some problems of KDV system
- [10] A. Kundu *Solitons: Introduction & Application* Winter School ,Bhar.Univ.Trichy (Springer Verlag, Springer series in Nonlinear Dynamics, ed.M Lakhshmanan et al 1988),p. 86-104:Gauge Unification of nonlinear integrable systems
- [11] A. Kundu *Mathematical Aspects of Nonlinear Studies in Oceanography* (South Asian Pub.,N.Delhi,ed.D Sinha ,1986) p. 32-40 :
Model studies in nonlinear Oceanography
- [12] A.Kundu *Solitons and Nonlinear systems*,(South Asian Pub.,N.Delhi,ed.D Sinha,1986) p. 101-5:Energy spectrum against topological charge in Skyrme model
- [13] A. Kundu & Yu.P. Rybakov *Problems in statistical & quantum physics*, 77-81 (1980):
To the description of stable solitons in S^2 - models (in Russian)
- [14] A. Kundu *Problems in statistical & quantum physics*, 55-60 (1981) (Russian) :Structure of Hopf index and its connection with Dirac monopole

III. Book Published

1. Anjan Kundu (Editor) *Tsunami and Nonlinear waves* (Springer, Geo-Sc, Heidelberg, 2007)
2. Anjan Kundu (Editor) *Classical and Quantum Nonlinear Integrable Systems: Theory and Applications* (IOP Publishing, Bristol, UK), 2003
3. Anjan Kundu, K S Srivastava and C S Shastri, *Nonconventional Energy Sources*, BITS Publication, 1984

IV. Reviews/Preprints/other publications

1. Anjan Kundu, hep-th/9612046
Quantum integrable system: Construction, Solution, Algebraic Aspect (Review , written for Monograph) (1997) (165 pages)
2. Anjan Kundu , cond-mat/0011437 (2000)
Refinement of Bethe ansatz string and its alternative
3. Lines and Curves (V Gutenmacher and N Vasiliev, Birkhaeuser Publication, Boston 2004), Translated from Russian by *Anjan Kundu*