

List of old Publications (1979-2010) of Anjan Kundu

I. Journal publications

- [1] Anjan Kundu, SIGMA 2 (2006), 078, 12 pages; : *Integrable hierarchy of higher nonlinear Schrödinger type equations*
- [2] 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 nonlinear differential equations/oscillators*
- [3] Anjan Kundu, Phys. Lett B 633 (2006) 657-63 : *Unifying quantization for inhomogeneous integrable models*
- [4] A. Kundu, Phys. Lett A 350 (2006) 210-3 : *Integrable multi atom matter-radiation models without rotating wave approximation*
- [5] A. Kundu, Theor Math Phys (Soviet J.) 144 (2005) 975-984 : *Quantum integrable multi atom matter-radiation models with and without rotating wave approximation*
- [6] Anjan Kundu, J.Phys. A 37 (2004) L281 : *Quantum integrability and Bethe ansatz solution for interacting matter-radiation systems*
- [7] Anjan Kundu, J Math Phys 44 (2003) 4589 : *Unifying scheme for generating discrete integrable systems including inhomogeneous and hybrid models*
- [8] 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*
- [9] Anjan Kundu, Physica A 318 (2003) 144-153 : *Generation of new classes of integrable quantum and statistical models ; cond-mat/0204495*
Chapter in Book:
- [10] 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*
- [11] Anjan Kundu, (Phys. Lett B 550 (2002) 128-34 : *Ultralocal solutions for nonultralocal integrable models*
- [12] Anjan Kundu, J. Phys. A35 (2002) L447-L453 : *New series of integrable vertex models through a unifying approach*
- [13] Anjan Kundu, J. Phys. A35 (2002) L125-L132 : *Consistent refinement of Bethe strings for spin and electron models and a new non-Bethe solution*
- [14] Anjan Kundu, Nucl. Phys. B618 (2001) 500-522 : *Integrability and exact solution of correlated hopping multi-chain electron systems*

- [15] 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*
- [16] Anjan Kundu, J. Nonlin. Math. Phys. 8 (2001) 178 : *Construction of variable mass sine-Gordon and other novel inhomogeneous quantum integrable models*
- [17] B. Basu-Mallick and Anjan Kundu, Phys. Rev., B62 (2000) 9927 : *Exact solution of Calogero model with competing long-range interactions* (cond-mat/0003425)
- [18] Anjan Kundu, J. Math.Phys. , 41 (2000) 721 : *Exact solution of quasi two and three dimensional quantum spin models*
- [19] Anjan Kundu, Reports. on Mathematical Physics, 46 (2000), 125-136 : *Algebraic construction of quantum integrable models including inhomogeneous models*
- [20] 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*
- [21] 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*
- [22] S. Ghosh, Anjan Kundu and S. Nandy, J. Math. Phys. 40 (1999) 1993 : *Soliton solutions, Liouville integrability and gauge equivalence of Sasa Satsuma equation*
- [23] Anjan Kundu, Phys. Rev. Lett., 83 (1999) 1275 : *Exact solution of double-delta function Bose gas through interacting anyon gas*
- [24] Anjan Kundu, Phys. Rev. Lett., 82 (1999) 3936 : *Algebraic approach in unifying quantum integrable models*
- [25] Anjan Kundu, Teor. Mat. Fiz. (Soviet Journal TMP) 118 (1999) 423-33 : *Construction of a new class of inhomogeneous quantum integrable models*
- [26] Anjan Kundu Indian J. Phys. 72 A (1998) 663-77: *Quantum integrable systems: basic concepts and brief overview* (Invited review)
- [27] Anjan Kundu Indian J. Phys. 72 B (1998) 283-99: *Unifying structures in quantum integrable systems* Ref: solv-int/9710018, (Invited review)
- [28] Anjan Kundu, Phys. Lett. A 249 (1998) 126-32 : *Exactly integrable family of generalized Hubbard models with twisted Yangian symmetry*
- [29] 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*
- [30] L Hlavaty (Prague Tech Uni) and Anjan Kundu, Int J. Mod. Phys. A vol 11 (1996) 2143-2165 : *Quantum Integrability of Nonultralocal Models through Baxterisation of Quantised Braided algebra*

- [31] A Ghosh , P Mitra and Anjan Kundu , J Phys 29 A, (1996) 115-124, : *Multidimensional isotropic and anisotropic Q-oscillator models*
- [32] Anjan Kundu , Mod Phys Lett A 10 (1995) 2955-2966 : *Exact Bethe ansatz solution of nonultralocal quantum mKdV model*
- [33] 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*
- [34] Anjan Kundu, Walter Strampp and W. Oevel J. Math. Phys , 36 (1995) 2972-2984 : *New integrable hierarchies gauge generated from constrained KP*
- [35] Anjan Kundu and Walter Strampp J. Math. Phys. 36 (1995) 4192-4202 : *Derivative and higher order extensions of Davey-Stewartson equation from matrix KP hierarchy*
- [36] Anjan Kundu and P.Truini : (Uni-Genova), J. Phys.A 28 (1995) 4089-4108 : *Universal R-matrix of reductive Lie algebras*
- [37] Anjan Kundu and J. Ng Phys. Lett. A , 197 (1995) 221 : *Deformation of angular momentum and its application to the spectra of triatomic molecules,*
- [38] Anjan Kundu, (invited review in the special issue "Solitons in Science and Engineering: Theory and Applications") : *Chaos Soliton and Fractals* (Pergamon Press), 5, (1995) 2329-2344 : *Origin of quantum group and its application in integrable systems*
Earlier Publications (1979-'94)
- [39] Anjan.Kundu & O.Ragnisco J.Phys. A (UK), 27 (1994) 6335 : *A simple lattice variant of NLSE and its deformation with exact quantum solution*
- [40] A. Kundu Phys.Lett. A 190 (1994) 79-84 : *Generation of a quantum integrable class of discrete-time or relativistic periodic Toda chains*
- [41] 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 nonadditive R-matrix.*
- [42] Anjan Kundu, Theor.Math.Phys., 99, (1994) 428-34 : *Classical integrable lattice models through quantum group related formalism*
- [43] A Kundu & B Basu-mallick J.Math.Phys.(USA) , 34(1993) 1252 : : *Classical and Quantum integrability of a novel derivative NLS model related to quantum group structures.*
- [44] A Kundu & B Basu-Mallick J.Phys.A (UK) , 25 (1992) 6307: *Solutions of the nonadditive YBE by spectral parameter factorization and re-Yang-Baxterization*
- [45] B Basumallick & A Kundu Phys Let B , 287(1992) 149-53 : *Hidden quantum group structure in a relativistic quantum field model*
- [46] B Basumallick & A Kundu to J. Phys.A (UK), 25(1992) 4147-56 : *Spectral parameter dependent approach to quantised algebra,its multiparameter deformation and their q-oscillator realisations*

- [47] A Kundu & B Basu Mallick *Mod.Phys.Lett. A* , 7 (1992) 61-9 : *Construction of integrable quantum lattice models through Sklyanin like algebras*
- [48] A Kundu *Indian J. Phys.*, 66A (1992) 531-43: *In search of some unifying symmetry through quantum groups in integrable and conformal theories*
- [49] Anjan Kundu & B Basu Mallick *Phys Lett A* ,156 (1991) 175-8 :*q-Deformation of Holstein- Primakoff transformation and other bosonisation of quantum group*
- [50] B Basu Mallick and Anjan Kundu *Mod Phys Let A* , 6 (1991) 701-6 : *Single q-oscillator mode realisation of the quantum group through canonical bosonisation of SU(2) and q-oscillators*
- [51] Anjan Kundu & B. Basu Mallick *J.Phys.Soc.Japan* , 59 (1990)1560-70 :*Investigation of the Hamiltonian structure of the KdV system through r-s matrixormalism revealing some new aspects*
- [52] Anjan Kundu & B. Basu Mallick *J. Phys.*, A23 (1990) L709-12 :*Relating different Poisson brackets of the KdV system to various symmetry conditions of the model*
- [53] B. Basu Mallick & Anjan Kundu *Phys. Lett.*, A 145 (1990) 120-6: *FT and APP brackets for the KdV system through Dirac's constrained Hamiltonian formalism*
- [54] S. Ghosh & Anjan Kundu *Phys. Rev. Lett.* 63, (1989) 1207-10 : *Test of integrability for SU(2) nonlinear σ - models*
- [55] B. Basu Mallick & Anjan Kundu *Phys. Lett.*, A 135, 113-6 (1989) : *Levinson-type theorem for the KdV system and its consequences*
- [56] Anjan Kundu *Inverse Problems* , 4(1988) 1143-4 : *Comments on the Eckhaus PDE*
- [57] 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
- [58] Anjan Kundu *J. Phys. (UK)*, **A 21**, 945-53 (1988):
Integrability of classical and semiclassical DNLS with nonultralocal canonical structure
- [59] Anjan Kundu *Physica A (Nethrland)*, **144A**, 418-29 (1987):
General soliton and soliton-polaron in continuum polyacetylene model through IST
- [60] Anjan Kundu *J. Phys.* , **20A**, 1107-14 (1987):
Explicit auto-Backlund transformation through gauge transformation
- [61] Anjan Kundu *Physica D* , **25D**, 399-406 (1987):
Exact solutions in higher order nonlinear equations through gauge transformation

- [62] Anjan Kundu *Phys. Lett. (Netherland)*, **B171**, 67-70 (1986) :
Hedgehog and toroidal solitons in the Skyrme model
- [63] Anjan Kundu *J. Phys.* ,**19A**, 1303-10 (1986):
Gauge equivalence of σ -models with noncompact Grassmannian manifold
- [64] Anjan Kundu *Phys. Lett.* ,**A113**, 215-7 (1985):
Comments on a set of S3 equations
- [65] Anjan Kundu *J. Math. Phys.* , **25**, 3433-8 (1984) :
Landau-Lifshitz and higher order nonlinear systems gauge generated from NLS type equations
- [66] Anjan Kundu *Indian J. Pure & Appl. Phys.* ,**22**, 441-6 (1984):
On NLS equation and gauge connected CHSC
- [67] Anjan Kundu *Physics Teacher*, **26**, 63-73 (1984):
Charge-energy relationship in topological field models
- [68] Anjan Kundu & L. Kundu *J. Phys.* **C16**, 5867-74 (1983):
Soliton excitation in many chained magnetic structures
- [69] Anjan Kundu & O. Pashaev *J. Phys.* ,**C16**, L585-90 (1983):
Comments on the gauge equivalence between CHSC with single site anisotropy and NLSE
- [70] 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
- [71] Anjan Kundu & V. Makhankov *Physica D (Netherland)* ,**D11**, 375-80 (1984):
On nonlinear effects in magnetic chains
- [72] Anjan Kundu *Lett. Math. Phys. (Netherland)*,**6**, 479-85 (1982):
On σ -models with noncompact groups
- [73] Anjan Kundu *Phys. Lett. (Netherland)*,**B110**, 61-3 (1982) :
Instanton in anisotropic sigma-models
- [74] Anjan Kundu *Annals of Phys. (USA)*,**139**, 36-47 (1982):
Construction of nonlinear σ -models in two and higher space-dimensions
- [75] Anjan Kundu *Acta Phys. Austriaca*,**54**, 7-12 (1982):
Nonlinear field models with nontrivial topological charges in three space dimensions
- [76] Anjan Kundu & Yu.P. Rybakov *J. Phys. (UK)*,**A25**, 269-75 (1983):
Closed vortex-type solution with Hopf index
- [77] Anjan Kundu *Canadian J. Phys.*, **59**, 1609-13 (1981):
On a gauge-generalization of a nonlinear σ -model with nonvanishing Hopf invariant

- [78] Anjan Kundu *Indian J. Pure & Appl. Phys.*,**20**, 872-4 (1982):
Spherically nonsymmetric exact soliton solutions with unit topological charge
- [79] D.D. Grachov & Anjan Kundu *Indian J. Pure & Appl. Phys.*,**20**, 393-4 (1982):
Generalized commutation relation in spinor electro dynamics
- [80] Anjan Kundu *Indian J. Phys.*, **57A**, 1-5 (1983):
Spherically nonsymmetric topological solitons in three space dimensions
- [81] Anjan Kundu *Indian J. Phys.*,**54A**, 399-401 (1980):
Exact soliton solution with unit topological charge
- [82] Anjan Kundu *Indian J. Phys.*,**55A**, 197-8 (1981):
A circular nonsymmetric exact soliton solution with unit topological charge
- [83] Anjan Kundu *Indian J. Pure & Appl. Phys.*,**19**, 138-40 (1981):
Soliton solution with nontrivial Hopf invariant on an intermediate S^3 manifold
- [84] 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
- [85] Anjan Kundu, Yu.P. Rybakov & V.I. Sanyuk *Indian J. Pure & Appl. Phys.*,**17**,673-7 (1979):
Topological solitons in the Skyrme gauge model

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

- [1] Anjan Kundu , in *Nonlinear Dynamics* (Narora Publication, 2009, N Delhi , Eds: M. Daniel and S. Rajasekar))
p. 25: *Nonlinearizing linear equations generating integrable systems*
- [2] 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*
- [3] *ibid* p. 147: *Towards constructing higher dimensional quantum integrable models*
- [4] Anjan Kundu *Generation of nonultralocal models* , *Proc. Int. Conf. 'Problems in QFT'* (May,1996, Alushta, Ukraine) (JINR,Dubna, 1997)
- [5] Anjan Kundu *Universality of the universal R-matrix and applications to quantum integrable systems*, *Proc. Int. Conf. 'Generalised Symmetries in Physics'* (July 26-29, 1993, ASI, Clausthal, Germany) W. Sc., 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 (GeoSc.), 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 Shastry, *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),
Translated from Russian by *Anjan Kundu*