

List of Publications Of Prof. A.K. Raychaudhuri
(Up dated June 2013)

(a). Refereed Journals only

1980

1. A.K. Raychaudhuri and R. Hasegawa
(1980) "Phonon Scattering in non-crystalline alloys" Phys. Rev. B 21, 479

2. A.K. Raychaudhuri and R.O. Pohl
(1980) "Connection between the low temperature anomaly in glasses and the glass transition temperature" Solid State Comm. 37, 105

1981

3. R.E. Stahlbush, C.M. Bastuscheck, A.K. Raychaudhuri and J.C. Scott
(1981) "Studies of polymeric chromium phosphinate" Phys. Rev. B 23, 33935.

4. T. Klitsner, A.K. Raychaudhuri and R.O. Pohl
(1981) "Connection between the low temperature thermal conductivity of glasses and the glass transition temperature" J. Phys (Paris) 42, C6 –66

1982

5. A.K. Raychaudhuri and R.O. Pohl
(1982) "Specific heat of glasses at low temperatures" Phys. Rev. B 25, 1310

6. A.K. Raychaudhuri and R.O. Pohl
(1982) "Thermal conductivity of neutron irradiated silica" Solid State Comm. 44, 711

7. A.K. Raychaudhuri and S. Hunklinger
(1982) "Low frequency elastic properties of glasses at low temperatures"
J. Phys (Paris) 43, C9 – 485

1983

8. A.K. Raychaudhuri and S. Hunklinger
(1983) "Low temperature elastic properties of a superconducting disordered metal"
Solid State Comm. 45, 103

1984

9. A.K. Raychaudhuri and S. Hunklinger
(1984) "Low frequency elastic properties of glasses at low temperatures – implication on the tunneling model" Z. Phys. B 57, 113

1985

10. S.B. Ray, A.K. Majumdar and A.K. Raychaudhuri
(1985) "A.C. Susceptibility and electrical resistivity in Fe_{80-x}Ni_xCr₂₀ alloys"
Phys. Rev. B 31, 7458

1986

11. J.F. Berret, J. Pelous, R. Vacher, A.K. Raychaudhuri and M. Schmidt
(1986) "Acoustic properties and relationship with the low frequency light scattering in an optical glass" J. of Non Crystalline Solids. 87, 70

12.P.K.Mukhopadhyay and A.K.Raychaudhuri
(1986) **“Easy to build four terminal a.c. bridge”** J.Phys E: Sci. Instr. **19**, 792

13. Madhu Prasad, Radhika Rani Rao and A.K.Raychaudhuri
(1986) **“A versatile A.C. Mutual inductance bridge”** J.Phys E: Sci. Instr. **19**, 1013

14.A.K.Raychaudhuri
(1986) **“Low temperature properties of glasses –Unsolved problems”** Proc. Indian Acad. Sciences (Chem. Sci Ed.) **96**, 559

1987

15. P.K.Mukhopadhyay and A.K.Raychaudhuri
(1987) **“A Simple vibrating reed apparatus”** J.Phys E: Sci. Instr. **20**, 507

16. P.Ganguly, K.Sreedhar, A.K.Raychaudhuri and C.N.R. Rao
(1987) **“High temperature superconductivity in the 100K region in perovskite related oxides of Ln-Ba-Cu-O (Ln= Y or Ba) system”** Pramana – J.Phys.(Letters). **21**, L 229

17. C.N.R.Rao, P.Ganguly, A.K.Raychaudhuri and R.A.Mohanram,
(1987) **“Identification of the phase responsible for high temperature superconductivity in Y-Ba-Cu Oxides”** Nature. **326**, 856

18.R.A.Mohanram, K.Sreedhar, A.K.Raychaudhuri, P Ganguly and C.N.R Rao
(1987) **“High temperature superconductivity in perovskite oxides of Y-Ba-Cu-O systems”** Phil.Mag. Letters. **55**, 257

19. A.K.Raychaudhuri, K.Sreedhar, K.P.Rajeev, R.A.Mohanram,
P.Ganguly and C.N.R Rao
(1987) **“High temperature superconductivity in La and Lu substituted Yba Cu O and related oxides”** Phil.Mag. Letters. **56**, 29

20.K.Sreedhar, R.A.Mohanram, A.K.Raychaudhuri, P.Ganguly and C.N.R.Rao
(1987) **“High temperature superconductivity in the Y-Ba-Cu-O system”**
Phase Transition, **10**, 3

1988

21. M.Rajeswari, Sheela K Ramshesha and A.K.Raychaudhuri
(1988) **“Continuous-cooling method of specific heat measurement in the temperature range 100-300 K”** J.Phys.E: Sci. Instr. **21**, 1017

22.P.K.Mukhopadhyay and A.K.Raychaudhuri
(1988) **“The elastic manifestation of a spin glass transition: a low frequency study”**
J.Phys.C:Solid State Phys. **21**, L 385

23. K.P.Rajeev, N.Y.Vasanthacharya, A.K.Raychaudhuri, P.Ganguly and C.N.R.Rao
(1988) **“Electrical transport in the perovskite solid solution $\text{LaNi}_{1-x}\text{Co}_x\text{O}_3$ ”**
Physica C **153-155**, 1331

1989

24.M.Rajeswari and A.K.Raychaudhuri
(1989) **“Heat release from a supercooled liquid near glass transition”**
Europhysics Letters. **10**, 153

25. K.B.R.Varma and A.K.Raychaudhuri

(1989) “Pyroelectric and dielectric properties of potassium hydrogen phthalate single crystals”
J phys D:Appl. Phys. **22**, 809

26.N.Y.Vasanthacharya, A.K.Raychaudhuri, P.Ganguly and C.N.R Rao
(1989)“Spin glass behaviour in the $\text{LaNi}_x \text{Mn}_{1-x} \text{O}_3$ system “
J. of Mag.and Magnetic Mater. **81**, 133

27. A.K.Raychaudhuri
(1989) “Origin of plateau in the low temperature thermal conductivity of silica”
Phys.Rev. **B 39**, 1927

1990

28.S.Banerjee, M.K.Gunasekaran and A.K.Raychaudhuri
(1990) “A phase-sensitive superheterodyne ultrasonic spectrometer”
Measurement. Sci. and Tech. **1**, 505

29. P.K.Mukhopadhyay and A.K.Raychaudhuri
(1990) “Elastic properties of reentrant spin glass” J. Appl. Phys. **67**, 5235

30. G.V.Shivashankar and A.K.Raychaudhuri
(1990) “Possible observation of coulomb blockade at room temperature”
Pramana-J.Phys.(Letters) **35**, L 503

1991

31. H Srikanth, M.Rajeswari and A.K.Raychaudhuri
(1991) “Point contact tunneling studies on ceramic YBCO with STM tips”
Pramana-J.Phys. **36**, 207

32. H.Srikanth and A.K.Raychaudhuri
(1991) “A versatile system for point contact conductance spectroscopy”
Cryogenics. **31**, 421

33. A.K.Raychaudhuri and R.O.Pohl
(1991) “Low temperature internal friction of glass ceramics”
Phys.Rev. **B 44**, 12 233 (1991-II)

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(1991) “A comparison of barrier type tunnel junction and point- contact tunnel junction formed on the same high T_c material” Pramana-J.Phys. **36**, 621

35. K.P.Rajeev, G.V. Shivashankar and A.K.Raychaudhuri
(1991) “Low temperature electronic properties of a normal conducting perovskite oxide (LaNiO_3)” Solid State Comm. **79**, 591

36. R.Karunanithi, A.K.Raychaudhuri, Z.Szucs, G.V.Shivashankar
(1991) “Behaviour of power MOSFETs at Cryogenics temperatures” Cryogenics **31**, 1065

37.A.K.Raychaudhuri
(1991) “Low temperature conductivity of Ta compensated sodium bronze near the metal-insulator transition” Phys.Rev. **B 44**, 8572 (1991-II)

38. H.Srikanth and A.K.Raychaudhuri
(1991) “Microshort to tunneling transition in $\text{Au-Yba}_2\text{Cu}_3\text{O}_{7.8}$ (single crystal) point contacts”
Phys.Rev. **B 45**, 383 (1991-II)

39. H.Srikanth, P.K.Mukhopadhyay and A.K.Raychaudhuri
(1991) “Superconducting gap in Nb seen by point contact spectroscopy”
 Bulletin of materials science **14**, 759
40. H.Srikanth and A.K.Raychaudhuri
(1991) “Effect of Surface on the conductance characteristics of Au- Bi₂Sr₂CaCu₂O_{8-δ} (single crystal) point contact junctions” J. of Appl. Physics **70**, 7478
41. S.Banerjee, M.R.Srinivasan, A.K.Raychaudhuri and H.L.Bhatt
(1991) “Ultrasonic velocity and attenuation in Ferroelectric TAAP”
 J.Phys :Condensed Matter (letters) **3**, L225

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42. P.K.Mukhopadhyay and A.K.Raychaudhuri
(1992) “Freezing of magnetic domain motion in a reentrant spin glass as seen by elastic measurements” Solid State Communication. **83**, 829
43. Radhika Rani Rao and A.K. Raychaudhuri
(1992) “Magnetic studies of a mixed antiferromagnetic system Fe_{1-x}Ni_xPS₃”
 J.Phys. and Chem. Solids **53**, 577
44. Radhika Rani Rao and A.K.Raychaudhuri
(1992) “Structural and Vibrational Studies of the layered structure solid Fe_{1-x}Ni_xPS₃”
 J. Phys. and Chem. Solids **53**, 949
45. K.P.Rajeev and A.K.Raychaudhuri
(1992) “Quantum corrections to conductivity in a perovskite oxide : A low temperature study of LaNi_{1-x}Co_xO₃” Phys. Rev. **B 46**, 1309
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(1992) “Modelling Tunneling data of Normal Metal-Oxide Superconductor point contact junctions” Physica **C190**, 229
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(1992) “Normal State Tunneling conductance of perovskite oxides : Implication on high T_c superconductors” Physica **C 195**, 87
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(1992) “Transition from metallic to Tunneling type conductance in metal-metal (N-N) and normal metal- superconductor (N-S) point contacts.” Phys. Rev **B 46**, 14 713
49. S.Banerjee, M.W.J. Prins, K.P.Rajeev and A.K.Raychaudhuri
(1992) “An automated thermal relaxation calorimeter” Pramana- J.Phys. **39**, 391
50. S.Banerjee and A.K. Raychaudhuri
(1992) “Resistivity minima and electron-electron interactions in crystalline alloys of transition metals” Solid State Commn. **83**, 1047
51. A.K.Raychaudhuri and R.O.Pohl
(1992) “Low temperature internal friction and sound velocity in Zener Alloys”
 Phys. Rev **B 46**, 10 657
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(1992) “Tunneling studies on single crystals of superconducting Bi₂Ca_{1-x}Y_xSr₂Cu₂O_{8-δ}”
 Physica **C 200**, 273

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(1993) "Specific heat measurements during cooling through the glass transition region"
 Phys.Rev. **B 47**, 3036
54. R.Goswami, S.Bannerjee, K.Chattopadhyay and A.K.Raychaudhuri,
(1993) "Superconductivity in rapidly quenched metallic systems with nanoscale structure"
 J. of Appl. Physics **73**, 2934
55. H.Srikanth and A.K.Raychaudhuri
(1993) "Tunneling studies on Sagnet tungsten bronzes near the metal – insulator transition "
 J. Phys. : Condens. Matter **5**, L551
56. M.Rajeswari and A.K.Raychaudhuri
(1993) "A model for the analysis of heat release from a supercooled liquid at the glass transition temperature". Pramana –J. Phys. **41**, 401
57. S.Banerjee and A.K.Raychaudhuri
(1993) "Magnetoresistance of $Fe_x Ni_{80-x} Cr_{20}$ ($50 < x < 66$) and $Fe_{25} Cr_{75}$ alloys "
 J. Phys (Letters): Condens. Matter **5**, L 295
58. H.Srikanth, A.K.Raychaudhuri, J.L.Peng and R.L.Greene
(1993) "Point contact tunneling studies on $(Y_{1-x} Pr_x) Ba_2Cu_3O_{7-\delta}$ single crystals".
 Physica **C 218**, 245
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(1994) "Glass like elastic properties in the ω - β alloys" Z.Physik **B 93**, 479
60. A.K.Raychaudhuri, K.P.Rajeev, H.Srikanth and R.Mahendiran
(1994) "Low temperature studies on normal perovskite oxides: role of correlation an disorder"
 Physica **B 197**, 124
61. S.Banerjee and A.K.Raychaudhuri
(1994) "Electrical resistivities of γ -phase $Fe_x Ni_{80-x} Cr_{20}$ alloys" Phys Rev **B 50**, 8195
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62. S.Banerjee R.Goswami, K.Chattopadhyay and A.K.Raychaudhuri,
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 Phys. Rev **B 52**, 3220
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(1995) "Metal – Insulator Transition In perovskite oxides : Tunneling Experiments"
 Phys. Rev **B 51**, 7421
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(1995) "Large Magnetoresistance in $La_{1-x} Sr_x MnO_3$ and its dependence on magnetization"
 Appl. Phys. Letts. **66**, 233
66. R. Mahendiran, A.K. Raychaudhuri, A. Chainani and D.D. Sarama
(1995) " Low temperature Linear Magnetic field sensor based on magnetoresistance of the perovskite oxide La-Sr-Co-O" Rev. Sci. Instrum. **66**, 3071

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(1995) “Giant Magnetoresistance in bulk samples of $\text{La}_{1-x}\text{A}_x\text{MnO}_3$ (A = Sr or Ca)”
 J. Solid State Chem. **114**, 297
68. R. Mahendiran, R. Mahesh, A.K. Raychaudhuri and C.N.R Rao
(1995) “Composition dependence of giant magnetoresistance in $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ”
 Solid State Comm. **94**, 515
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(1995) “Room temperature giant magnetoresistance in $\text{La}_{1-x}\text{Pb}_x\text{MnO}_3$ ”
 J. of Physics D: Appl. Phys. **28**, 1743
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(1995) “Giant Magnetoresistance in Bulk samples of LaMnO_3 with varying Mn content”.
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(1995) “Large magnetoresistance of $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ at low temperatures.”
 J. Phys. Condensed Matter (Letters) **7**, L 561
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(1995) “Effect of Internal Pressure due to the A-site cations on the giant magnetoresistance and related properties of doped rare earth manganates $\text{Ln}_{1-x}\text{A}_x\text{MnO}_3$ (Ln = La, Nd, Gd)”
 J. Solid State Chem. **120**, 204

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(1996) “Are single phase manganite samples truly homogeneous? A magnetic resonance study”
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(1996) “Structure electron- transport properties and giant magnetoresistance of hole doped LaMnO_3 systems.” Phys. Rev B **53**, 3348
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(1996) “Effect of particle size on the giant magnetoresistance of $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ ”
 Appl. Phys. Letts. **68**, 2291
77. R. Mahendiran, S.K. Tiwary and A.K. Raychaudhuri
(1996) “Thermopower of giant magnetoresistive system $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ”
 Solid state commn. **98**, 701
78. R.Mahendiran, R. Mahesh, A.K. Raychaudhuri and C.N.R Rao
(1996) “Resistivity, giant magnetoresistance and thermopower in $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ showing a large difference in temperatures corresponding to the ferromagnetic transition and the insulator-metal transition.” Solid state Comm. **99**, 149
79. R. Mahesh, R. Mahendiran, A.K Raychaudhuri and C.N.R Rao

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80. M. Rajeswari, A. Goel, A.K. Raychaudhuri, C.Kown, T. Venkateswan and R.L. Greene
(1996) **“Large Resistance fluctuation in epitaxial films thin films of GMR oxides “**
Appl. Phys. Letts., **69** , 851 and Errata 1978

81. Geetha Ramaswamy and A.K. Raychaudhuri
(1996) **“Nanostructure of giant magnetoresistive oxide film $\text{Nd}_{2/3}\text{Sr}_{1/3}\text{MnO}_3$ ”**
J. Appl. Phys. **80**, 4519

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(1996) **“Magnetoresistance of the spin state transition compound $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ ”**
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(1996) **“Tunneling spectroscopy and the density of states in $\text{La}_{0.8}\text{Ca}_{0.2}\text{MnO}_3$ “**
J. Phys : Condensed Matter (letters) **8**, L 739

84. R. Mahendiran, S.K. Tewary, A.K. Raychaudhuri, R. Mahesh and C.N.R Rao
(1996) **“Thermopower and nature of the hole doped states in LaMnO_3 and related systems”**
Phys. Rev. B (Rapid Commn) **54**, R 9604

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(1996) **“Unusual field dependence of the resistivity and magnetoresistance in $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ ”**
J. Phys : Condensed Matter (letters) **8**, L 455

86. A. Arularaja, R. Mahesh, G.N. Subanna, R. Mahendiran, A.K. Raychaudhuri and C.N.R Rao
(1996) **“Insulator –Metal transition , Giant magnetoresistance and related aspects of the cation deficient LaMnO_3 compositions, $\text{La}_{1-3}\text{MnO}_3$ and $\text{LaMn}_{1-3}\text{O}_3$ “** J. Solid State Chem. **127** , 87

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(1996) **“Low temperature specific heat of $\text{La}_{0.67}\text{Ba}_{0.33}\text{MnO}_3$ and $\text{La}_{0.8}\text{Ca}_{0.2}\text{MnO}_3$ “**
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(1996) **“Structural changes and related effects due to charge ordering in $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ ”**
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(1997) **“Large deviation from Matheissen’s rule in chemical vapor deposited copper films and its correlation to nanostructure”** Journal of Physics D: (Appl. Physics) (Rapid Commn) L5-9, **30**

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(1997) **“ Effect of substitution of Cr^{3+} in place of Mn^{3+} in rare earth manganates on the magnetism and magnetoresistance : role of superexchange interaction and lattice distortion in $\text{LnMn}_{1-x}\text{Cr}_x\text{O}_3$ ”**
J. Solid state Chem. **127**, 354

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(1998) “Low energy excitation in crystalline perovskite oxides : Evidence from noise experiments”.
Phys. Rev. (Rapid commn.) **58**, R 14665 (1998).

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