

List of Publications Of Prof. A.K. Raychaudhuri
(Up dated September 2016)

(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. **B25**, 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. **B57**, 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. **B31**, 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)
34. H. Srikanth and A. K. Raychaudhuri
(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 Au-Yb₂Cu₃O_{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_{8.8} (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

1992

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
46. H. Srikanth and A.K. Raychaudhuri
(1992) “Modelling Tunneling data of Normal Metal-Oxide Superconductor point contact junctions” Physica C **190**, 229
47. H. Srikanth, K.P. Rajeev, G.V. Shivashankar and A.K. Raychaudhuri
(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. Bannerjee, 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

52. H.Srikanth, A.K.Raychaudhuri, C.R.Rao, P.Ramaswamy, H.N. Aiyar, C.N.R. Rao

(1992) **“Tunneling studies on single crystals of superconducting $\text{Bi}_2\text{Ca}_{1-x}\text{Y}_x\text{Sr}_2\text{Cu}_2\text{O}_{8+\delta}$ ”**
Physica C **200**, 273

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53. M.Rajeswari and A.K.Raychaudhuri

(1993) **“Specific heat measurements during cooling through the glass transition region”**
Phys.Rev. B **47**, 3036

54. R.Goswami, S.Banerjee, 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 5agnet 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 $\text{Fe}_x\text{Ni}_{80-x}\text{Cr}_{20}$ ($50 < x < 66$) and $\text{Fe}_{25}\text{Cr}_{75}$ 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 $(\text{Y}_{1-x}\text{Pr}_x)\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$ single crystals”**.
Physica C **218**, 245

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59. J.E.Van Cleve, A.K.Raychaudhuri and R.O.Pohl

(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 $\text{Fe}_x\text{Ni}_{80-x}\text{Cr}_{20}$ alloys”** Phys Rev **B 50**, 8195

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62. S.Banerjee R.Goswami, K.Chattopadhyay and A.K.Raychaudhuri,

(1995) **“Structural and electrical transport properties of Al-Cu-Cr Quasicrystals”**
Phys. Rev **B 52**, 3220

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64. A.K.Raychaudhuri, K.P.Rajeev, H.Srikanth and N. Gayathri
(1995) “Metal – Insulator Transition In perovskite oxides : Tunneling Experiments”
 Phys. Rev B **51**, 7421
65. R. Mahendiran, A.K. Raychaudhuri, A. Chainani and D.D. Sarama
(1995) “Large Magnetoresistance in $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$ 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
67. R. Mahesh, R. Mahendiran, A.K. Raychaudhuri and C.N.R Rao
(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
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(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
70. R. Mahendiran, R. Mahesh, A.K. Raychaudhuri and C.N.R Rao
(1995) “Giant Magnetoresistance in Bulk samples of LaMnO_3 with varying Mn content”.
 Pramana – J.Phys. (letters) **44**, L393
71. R. Mahendiran, A.K. Raychaudhuri, A. Chainani and D.D. Sarama
(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)”
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73. M.Dominguez, S.E. Lofland, S.M.Bhagat, A.K.Raychaudhuri, H.L.Ju and R.L. Greene
(1996) “ Are single phase manganite samples truly homogeneous ? A magnetic resonance study”
 Solid state Comm. **97**, 193
74. R. Mahendiran, S.K. Tiwary, A.K. Raychaudhuri, T.V. Ramakrishnan, R. Mahesh, N. Rangavittal and C.N.R Rao
(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 Y substitution in La-Ca-Mn-O perovskite showing giant

magnetoresistance” Phys. Rev. B **53**, 12 160

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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

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(1996) **“Thermopower of giant magnetoresistive system $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ”**
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(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

(1996) **“Effect of dimensionality on the giant magnetoresistance of the manganates : A study of $(\text{La,Sr})_{n+1}\text{Mn}_n\text{O}_{3n+1}$ family”.** J. Solid State Chem. **122** , 448

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

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(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 $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ ”**
Phys. Rev B **54**, 16 044

83. Amlan Biswas and A.K. Raychaudhuri

(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

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(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

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(1996) **“Insulator –Metal transition , Giant magnetoresistance and related aspects of the cation deficient LaMnO_3 compositions, $\text{La}_{1-\delta}\text{MnO}_3$ and $\text{LaMn}_{1-\delta}\text{O}_3$ “** 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 $\text{La}_{0.8}\text{Ca}_{0.2}\text{MnO}_3$ “**
Phys. . Rev.B, **54**, 14 926

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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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Phys. Rev. B **56**, 1345
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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**
91. R. Gundakaram, A. Arulraj, P.V. Vanitha, C.N.R Rao , N. Gayathri and A.K. Raychaudhuri
(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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(1997) **“Low temperature resistivity and magnetoresistance of Icosahedral Quasi crytals Al-Cu-Cr”**
J. Phys : Condnsed Matter **9**, 6643
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(1997)**“ Direct measurement of charge ordering gap in $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ using vaccum tunneling”** J.
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(1997) **“Epitaxial films of $\text{La}_{1-x}\text{MnO}_3$ exhibiting CMR prepared using neublized spray pyrolysis”**
J. Phys D (Appl Phys) (rapid commn)**30**, L1-L3
- 96.A.Ghosh, A.K. Raychaudhuri, R. Sreekala, M. Rajeswari and T. Venkatesan
(1997) **“Dependence of the conductivity noise of metallic oxide interconnects on the oxygen stoichiometry : A study of $\text{LaNiO}_{3-\delta}$ ”**
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