Publication of Dr. T. Nandi

List of Publications in Refreed Journals:

1. Lifetimes and Excitation Functions of Levels in Ar II-IV, Tapan Nandi, M.B. Kurup, K.G. Prasad, P.M.R. Rao, S. Padmanabhan, G. Krishnamurthy, and A.P. Mishra, **JQSRT 49**, 389-400(1993)

2. Study of Core Excited States in Neutral Na, **Tapan Nandi**, M.B. Kurup, K.G. Prasad, and P.M.R. Rao, J. Phys. **B27**, 1975-80(1994).

3. Instrumentation for Beam-foil Spectroscopic Studies in the UV-visible region, Tapan Nandi, Vandana Nanal, W.A. Fernandes, C.A. Desai, M.B. Kurup, K.G. Prasad, P.M.R. Rao, and S. Padmanabhan, Pramana-Journal of Phys 44, 67-76(1995).

4. Spectroscopy of Highly Excited States in Na II-IV ions, **Tapan Nandi**, M.B. Kurup, K.G. Prasad, and P. Marketos, J. Phys.**B28**, 685-92(1995).

5. L-shell Ionization Studies of Pb and Bi with alpha-particle, B.B. Dhal,**Tapan Nandi**, and H.C. Padhi, Phys. Rev.**A49**, 329-36(1994).

6. L-shell Ionization Studies of Au and Bi with by 4.8-8.8 MeV Boron Ion Bombardment, B.B. Dhal, **Tapan Nandi**, and H.C. Padhi, Nucl. Instr. Meth. **Tapan Nandi**, and H.C. Padhi, Nucl. Instr. Meth. **B101**, 327-34(1995).

7. Experimental Evidence in Favour of Stark Mixing of Atomic L-subshell States in Boron Impact of Au and Bi, H.C. Padhi, B.B. Dhal,**Tapan Nandi**, and D. Trautmann, J. Phys.**B28**, L59-63 (1995).

8. L-shell Ionization Studies of Au with ?-particle and Lithium Ion Bombardments, B.B. Dhal, **Tapan Nandi**, H.C. Padhi, and D. Trautmann, J. Phys.**B28**, 3559-68(1995).

9. Lifetime Measurements of Excited Levels in C II-III by Beam-foil Experiments, **Tapan Nandi**, Nandini Bhattacharyaa, M.B. Kurup, and K.G. Prasad, Physica Scripta **53**, 167-73(1996).

10. Theoretical Lifetimes for Certain O II Levels, P. Marketos and **Tapan Nandi**, Z. Phys. **D42**, 237-242 (1997).

11. Lifetimes of some O II levels by beam-foil experiments,**T. Nandi**, P. Marketos, N. Bhattacharya, and S.K. Mitra, J. Phys.**B 32** (1999) 769-778.

12. Multiple ionization in YB due to N-, Si, and Ti-ion impact, P. Verma, J. Braich,**T.Nandi**, A. Mandal, H.R. Verma, accepted in Physica Scripta, 2000.

13. K and L x-ray production cross sections and intensity ratios of rare earth elements for proton impact in the energy range of 20-25MeV, M. Hajivaliei,..., **T. Nandi**, et al, appeared in Nucl. Instru.Meths. **B160**(2000)203-215.

14. rare earth elements for proton impact in the energy range of 20-25MeV, M. Hajivaliei,..., **T. Nandi**, et al, appeared in Nucl. Instru.Meths. **B160**(2000)203-215.

15. Lifetime of 1s2s2p $^4P^o_{5/2}$ using Beam-foil techniques, **T. Nandi**, P. Marketos, P. Joshi, R.P. Singh, C.P. Safvan, P. Verma, A. Mandal, A. Roy,and R.K. Bhowmik, Phys. Rev. A 66, 052510(2002).

16. New modifications in 15 UD Pelletron at Nuclear Science Centre, S. Chopra,...., **T.Nandi**, ...S.K. Datta, Pramana-J. Phys. 59(2002)849.

17. Does hyperfine quenching affect significantly the $1s2p\ ^3P^o_2$ level in He-like vanadium? **T. Nandi**, Indian J. Phys.**76B**(2002)407-414.

18. Lifetime of 1s2p $^3P^o_2$ using Beam-two-foil experiments, **T. Nandi**, A.A. Wani, Nissar Ahmad, P. Marketos, R.P. Singh, R. Ram,and S. Ahmad, J. Phys.B.37 (2004)703-710

19. Lifetime of 1s2s2p $^4P^o_{5/2}$ in Ti^{19+} by beam-foil and beam-two-foil experiments, **T. Nandi**, Nissar Ahmad, A.A. Wani, and P. Marketos, submitted to J.Phys B (2004)

20. Effect of satellite lines on the $1s2p\ ^3P^o_2$ level lifetimes in He-like ions, **T. Nandi**, submitted to Eur. J. D (2004).

21. Inclined plate electrostatic charge state analyzer, **T. Nandi**, Nissar Ahmad, Hemant K. Singh, and R.G. Pillay, submitted to Rev. Sci. Instr. (2004)

In conference proceedings:

1. 'Study of Excitation Functions and Transition Probabilities in Ar ions', **Tapan Nandi**, M.B. Kurup, K.G. Prasad, P.M.R. Rao, S. Padmanabhan, G. Krishnamurthy, and A. P. Mishra, D.A.E. Nucl. Phys. Symposium, **34B**, 453(1991).

2. 'Core Excited Quartet States in Na I,' **Tapan Nandi**, M.B. Kurup, K.G. Prasad, and P.M.R. Rao, Ninth National Conference on At. and Mol. Phys (IX-NACAMP), 247(1992).

3. 'Study of $2p^5 3d - 2p^5 4f$ Transitions in Na II,' **Tapan Nandi**, M.B. Kurup, K.G. Prasad, and B. P. Das, DAE Symposium on Nuclear Phys., **35B**, 464(1992).

4. 'Radiative Lifetimes of Several Levels of C II,' **Tapan Nandi**, M.B. Kurup, K.G. Prasad, and H.C. Padhi, Int. Conf. Astr. and Cosmology, SINP, Calcutta, 1993.

5. 'Inclined Plate Electrostatic Beam Switcher,' **Tapan Nandi**, R. G. Pillay, M.B. Kurup, and K.G. Prasad, DAE Symposium on Nuclear Phys., **36B**, 400(1993).

6. 'Radiative Lifetimes of Several Levels of Na II,' **Tapan Nandi**, M.B. Kurup and K.G. Prasad, DAE Symposium on Nuclear Phys., **36B**, 468(1993).

7. 'Beam-foil Excitation Study of Doubly Excited levels,' **Tapan Nandi**, M.B. Kurup and K.G. Prasad, National Conference on Current Trend in Atomic and Molecular Physics, 170(1993).

8. 'Beam-foil Study of Ar II Doubly Excited Levels,' **Tapan Nandi**, M.B. Kurup and K.G. Prasad, National Conference on Current Trend in Atomic and Molecular Physics, 171(1993).

9. 'Evidence against projectile induced L_i-subshell vacancy rearrangement effect for α- particle ionization in Pb and Bi,' B.B. Dhal, **T. Nandi**, H.C. Padhi, and D. Trautmann, DAE Symposium on Nuclear Phys., **36B**, 458(1993).

10. 'L-shell ionization studies of Au and Bi by Boron,' B. B. Dhal, **T. Nandi**, S.N. Serangi, A. Gopalkrishnan, and H.C. Padhi, National Conference on Current Trend in Atomic and Molecular Physics, 169(1993).

11. 'study of douby excited levels in C II-III by beam Foil experiments,' Tapan Nandi, N. Bhattacharya, M.B. Kurup, and K.G. Prasad, DAR Symposyum on Nuclear Physics, **37B** 491-492(1994).

12. 'L-subshell ionization studies of Au for α-particle and Lithium ion bombardment,' B.B. Dhal, **T. Nandi**, H.C. Padhi, and D. Trautmann, **37B** 493-494(1994).

13. 'Lifetime studies of some levels of O II by beam-foil experiments,' **Tapan Nandi**, N. Bhattacharya, and S.K. Mitra, Xth National Conference on At & Mol Phys., 58(1995).

14. 'Problems with the open shell ions,' N. Bhattacharya, **Tapan Nandi**, and S.K. Mitra, International Conference on Spectroscopy (ICONS) at BARC, Bombay (1996).

15. 'New observation of doubly excited states in Ar III,' **Tapan Nandi**, N. Bhattacharya, and S.K. Mitra, International Cnference on Spectroscopy (ICONS) at BARC, Bombay (1996).

16. 'Beam-foil spectroscopy in the VUV range using the 14 MV Pelletron,' N. Bhattacharya, W.A. Fernandes, **Tapan Nandi**, and S.K. Mitra, XIth National Conference on At

17. 'Beam-two foil experiments at NSC using the 16MV Pelletron,' **Tapan Nandi**, P. Joshi, R.P. Singh, et al, XIIth National Conference on At & Mol Phys. at Udaipur, 38(1999).

18. 'Anomalous decay of atomic level: A new method of measuring lifetime of autoionizing levels of 1s2p2s $^4P^o_{5/2}$ state in Li-like Vanadium,' **Tapan Nandi**, National Symposium on atomic physics at the Frtontiers, Roorkee Univ., 22(2000).

19. 'Does hyperfine quenching influence on the 1s2p $^3P^o_2$ levels in He-like ions?,' **T. Nandi**, XIIIth National Conference on At & Mol Phys. at IACS, Jadavpur, 11(2001).

20. 'Equilibrium charge state distribution of ions exiting carbon foils over the range of Z=4-21 and E=0.4 to 1.2 MeV/u,' T.Nandi, Aijaz A Wani, et al, International conference on current developments in At Mol and chemical physics with applications (CDAMCP), Delhi Univ., 44(2002).

21. 'Multiple ionization produced in Ho due to N- and Ag-ion impact,' Punita Verma, Samit Mandal, D.P. Goyal, A. Mandal, and **T.Nandi**, International conference on current developments in At Mol and chemical physics with applications (CDAMCP), Delhi Univ., 54(2002).

22. 'Lifetime measurement of 1s2p $^3P^o_2$ state in He-like ^{58}Ni using beam-foil experiment with single as well as two-foil target,' et al, International conference on current developments in At Mol and chemical physics with applications (CDAMCP), Delhi Univ., 44(2002).

23. 'Multiple ionization produced in Ho due to N- and Ag-ion impact,' Punita Verma, Samit Mandal, D.P. Goyal, A. Mandal, and **T.Nandi**, International conference on current developments in At Mol and chemical physics with applications (CDAMCP), Delhi Univ., 54(2002).

24. 'Lifetime measurement of 1s2p $^3P_2^o$ state in He-like ^{58}Ni using beam-foil experiment with single as well as two-foil target,' Aijaz A Wani, Nissar Ahmad, Shabbir a, Tauheed A, R.P. Singh, and **T.Nandi** International conference on current developments in At Mol and chemical physics with applications (CDAMCP), Delhi Univ., 55(2002).

Internal publications: (Development and improvement of experimental facilities) at NSC
Technical Reports (Development of experimental facility) and **Technical Memo**(improvement on exprimental facilty)

1. Accelerator Mass Spectroscopy using the 15UD Pelletron Accelerator at NSC, T. Nandi and R.R. Sinha, NSC/TR/TN/2000-2001/40.

2. Beam-foil spectroscopy experiment using single as well as two-foil targets at NSC, T.Nandi et al, NSC/TR/TN/2000-2001/76.

3. Triple axis target manipulator and gas jet for the atomic physics beam line, T. Nandi, P. Verma, P. Barua, and Rewa Ram, NSC/TR/TN/2000-2001/66.

4. Restoration of the resolution of the Low energy Germanium x-ray detector, T. Nandi and S. Murlithar, NSC/TR/TN/2000-2001/71.

5. Multi Anode Gas Ionization Counter (MAGIC) for the AMS experiments, P. Joshi, Rewa Ram, T. Nandi, and S.K. Datta, NSC/TR/PJ/2000-2001/77.

6. Multipurpsoe scattering chamber for atomic physics research with the 15UD Pelletron Accelerator at NSC, T. Nandi, NSC/TR/TN/2000-2001/81.

7. Feasibility test of simultaneous measureent technique for AMS studies, T. Nandi, S. Gargari, Sunil Ojha, and S.K. Datta, NSC/TR/TN/2000-2001/78.

8. Repairing Si(Li) x-ray detectors, Kusum Rani, T. Nandi, and S. Murlidhar (Technical Memo submitted)

9. Detection of C-14 in facility test run, T.Nandi, SKD, Golda, S.G., Devrani, SC, and DK, NSC/TR/TKN/2001-2002/8.

10. Development of the offset Faraday cup for the AMS measurements, T.Nandi and Rewa Ram, NSC/TR/TKN/2001-2002/9.

11. A versatile facility for atomic spectroscopy and collision experiments using the Pelletron and LINAC, NSC/TR/TKN/2001-2002/10.

General articles:

- Study of doubly excited states by beam-foil experiments, **Tapan Nandi**, p126-136, Atomic and Molecular Physics, Bindra Publication, Ed. S.P. khare, Deo Raj, and Ashok Kumar

- Future plan for atomic physics research with highly charged ions at NSC, New Delhi, **T.K. Nandi**, P255-260, X-ray spectroscopy and allied areas, Narosa Publishing House, New Delhi, Ed. S.K. Joshi, B.D. Srivastava, and A.P. Deshpande.

- Anomalous decay of Atomic levels: A new method of measuring lifetime of the auto-ionizing levels of $1s2s2p\ ^4P^o_{5/2}$ in Li-like atoms, Atomic physics at the Frontiers, 2000, Ed. R. Srivastava, Narosa Publishing House, New Delhi

Under preparation for the publication in Journals:

- L-subshell ionization cross section of rare earth atoms by silver ion impact, P. Verma, T.Nandi, et al

- Observation of doubly excited states in Ar III using beam-foil and beam-gas experiments, T. Nandi, Rita Das, and Nissar Ahmad.

- Problems with open shell ions, T. Nandi et al.

- Lifetime measurements for some levels in NaII and Na III using beam-foil experiment, T. Nandi et al