

Dr. Alok Kumar Singh Jha

Assistant Professor (Physics)

Centre/School/Special Centre: School of Physical Sciences

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Qualifications

Ph. D. (2007) Relativistic Calculations of Photoionization Cross Sections in Multielectron Atomic system, Department of Physics and Astrophysics, University of Delhi, Delhi-110007

M. Sc. (2002) Physics, University of Delhi, Delhi-110007

Areas of Interest/Specialization

Atomic structure calculations. Relativistic and Non-Relativistic Structure Calculations of Atoms and Highly charged Ions. Study of Photon/electron atom/Ion interactions. Photo-ionization Cross Section, Electron Impact Excitation Collision strength calculations of complex Atoms and Ions. Atomic processes in Plasma. Influence of strongly coupled plasma environment on atomic processes.

Experience

Assistant Professor (Physics) - School of Physical Sciences, JNU (Since November 2020)

Assistant Professor (Physics) – Kirori Mal College, University of Delhi, Delhi (2009 – 2020)

Assistant Professor (Physics) – Ramjas College, University of Delhi, Delhi (2007 - 2008)

Best Five Peer Reviewed Publications

30. Influence of strong coupled plasma environment on photoionization of H-like O^{7+} ion
D. Dawra, M. Dimri, A.K.Singh, Alok K S Jha, R.K.Pandey, R. Sharma and M.Mohan, Physics of Plasma(Article in Press)
29. Fine structure calculations of excitation energies, lifetimes and radiative properties of S-like Kr-XXI
M. Dimri, D. Dawra, A.K.Singh, Alok K S Jha, R.K.Pandey, R. Sharma and M.Mohan, Radiation Physics and Chemistry, 189,109756,2021.
28. Electron impact excitation of Na-like Cu XIX using the Breit–Pauli R-matrix method
M. Dimri, D. Dawra, A. K. Singh, Alok K S Jha, R. K. Pandey, R. Sharma and M. Mohan Eur. Phys. J. D, 75: 157,2021.
27. Atomic structure and radiative properties of He-like Ni^{26+} ion in dense plasma
M. Dimri, D. Dawra, A.K.Singh, Alok K S Jha, R.K.Pandey, M.Mohan, Can. J. Phys. 99, 559-565,2021.
26. Plasma screening effects on the atomic structure of He-like ion embedded in strongly coupled plasma
A K Singh, D. Dawra; M. Dimri; Alok K.S. Jha; R.K.Pandey, M. Mohan Physics Letter A,384, 12,126369,2020.
25. Relativistic Photoionization cross section calculation and resonance parameters of Mg-like Se XXIII
A K Singh, D. Dawra; M. Dimri; Alok K.S. Jha; R Sharma, M. Mohan, Radiation Physics and Chemistry 168, 108447,2020.
- 24 Relativistic atomic structure calculations and study of plasma parameter for Na-like Se XXIV
A K Singh, D. Dawra; M. Dimri; Alok K.S. Jha;and M. Mohan, Physics of Plasma 26 (6),062704, 2019
- 23 Relativistic R-matrix photoionization cross section calculations of Ne-like Co XVIII with resonance parameters
A K Singh, M. Dimri; D. Dawra, Alok K S Jha, M.Mohan, J.Phys.B: At. Mol.Opt. Phys. **52** (7) 075002., 2019.
- 22 Relativistic R-matrix calculations of photoionization cross sections of Cu XVIII
A K Singh, M. Dimri, D. Dawra , Alok K S Jha and M Mohan The European Physical Journal D 73(5) 85,2019

- 21 Spectroscopic study of EUV and SXR transitions of Cu XIX with plasma parameters
A.K. Singh, M. Dimri, D. Dawra, Alok K.S. Jha, N. Verma , M. Mohan Radiation physics and Chemistry,156, 174-192,2019.
- 20 Accurate study on the properties of spectral lines for Na-like Cr¹³⁺
A.K. Singh, M. Dimri; , D. Dawra, Alok K S Jha, M. Mohan ,Can. journal of Physics,97: 436–442 2019
19. Relativistic atomic data for W XLVII
S. Aggarwal, Alok K S Jha, I Khatri, N Singh and M. Mohan Chinese Phys B 24(5) 0532201,2015
18. Reply to comment on Multiconfigurational Dirac-fock energy levels and radiative rates for Br- like Tungsten,
M Mohan, S Aggarwal, N Singh and Alok K S Jha, Can J Phys 92 (6) 551-552,2014
17. Energy Level and Radiative Rates for Transition in Ge XXXI, As XXXII and Se XXXIII
S. Aggarwal, J.Singh, Alok K S Jha, M. Mohan At. Data Nucl. Data Tables,100, 859,2014
16. Multiconfigurational Dirac-fock energy levels and radiative rates for Br-like Tungsten,
S. Aggarwal, Alok K.S.Jha and M.Mohan, Can. Journal of Physics 91(5),394-400,2013.
15. Photoionization Cross-Section of Chlorine-like Iron,
S. Aggarwal, J. Singh, Alok K.S.Jha and M.Mohan, Journal of Astrophysics and Astronomy, 33,291–301,2012.
14. Photoionization of Al-like silicon using R-matrix method,
J.Singh, S Aggarwal, Alok K.S.Jha ,A K Singh and M.Mohan, Canadian Journal of Physics 89(11),1119 -1126, 2011
13. Lifetime for TiX spectrum,
J.singh, Alok K.S.Jha, M.Mohan, Journal Phys. B. At. Mol. Opt. Phys 43 (11), 115005, 2010.
12. Relativistic R-matrix close-coupling calculations for Silicon-like NiXV,
J. Singh, Alok K.S.Jha, M.Mohan, Astrophysical Journal Supplement series,186,334-340,2010.
11. New Atomic Data for Ti X,
J. Singh, Alok K.S.Jha, N.Verma, M.Mohan , At.Data Nucl.Data Tables 96,759,2010.
10. Photoionization cross section for NiXIX,
Alok K S Jha, S.Tyagi and M. Mohan, The Astrophysical Journal supplement Series, 173,177, 2007.
9. Electron collisional excitation of argon-like Ni XI using the Breit-Pauli R-matrix method
N. Verma, Alok K. S. Jha and M. Mohan, The European Physical Journal D 42, 235- 241,2007,
8. Level energies, oscillator strengths and lifetimes for transitions in TiVI
M. Mohan, A.K.Singh , Alok K.S.Jha and P. Jha,At. Data Nucl. Data Tables, 93(1), 105- 126, 2007.
7. New relativistic atomic data of Fe IX
N. Verma, Alok K S Jha and M Mohan, Astrophysical Journal Supplement series 164, 297 2006.
6. Photoionisation of ground $1s^2 2s^2 2p^6 1S^e$ and excited $1s^2 2s^2 2p^5 3s^3 P^o_{0,1,2}$ states of Si V using relativistic Breit Pauli R-matrix method,
Alok K S Jha, N. Singh, N Verma and M. Mohan, Canadian Journal Phys.,84,707,2006.
5. Relativistic R-matrix close-coupling calculations for photoionization of Ne-like Al IV,
Alok K. S. Jha, P.Jha, S. Tyagi and M. Mohan, Eur. Phys. J. D, 39,391,2006.
4. Semi-relativistic Calculations for the Photoionization of Neutral Argon from its Four Lowest J-States,
M.Mohan ,Alok.K.S. Jha & N.Singh , Physica Scripta 73(6) , 601 2006.
3. Breit-Pauli energy levels and radiative lifetimes in neutral chlorine,
N. Singh, Alok K S Jha and Man Mohan, Eur. Phys J. D 38(2), 285 2006.
2. Transition in CoXI,
N.Verma, Alok K.S. Jha and M.Mohan, J.Phys. B: At.Mol.Opt. Phys 38, 3185,2005.
1. Fines- structure energy levels, oscillator strengths and lifetimes of Chlorine like chromium,
M.Mohan, A.K.Singh, Alok.K.S.Jha and N.Singh Pramana journal of physics 65 75 July 2005.