



**Shaheed Rajguru College of Applied Sciences for Women
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Faculty Profile**

Name	Dr Ashok Kumar	
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Degree	Institution	Year
B. Sc.	Himachal Pradesh University Shimla H P	1999
M.Sc.	Kurukshetra University Kurukshetra Hr	2004
Ph. D.	Jointly with Shobhit University (Deemed to-be University) Meerut and Banaras Hindu University Varanasi U P	2012
Areas of Interest / Specialization		
Low Energy Nuclear Physics, Nuclear Emulsions, Solid State Nuclear Track Detectors and Antenna Communication		
Publications Profile		
Research Papers Published in Refereed/Peer-Reviewed Journals		
1. <i>Systematic study of projectile-structure effect on the fusion-barrier distribution</i> Pratap Roy, A. Saxena, B.K. Nayak, E.T. Mirgule, B. John, Y.K. Gupta, L.S. Danu, R.P. Vind, A. Kumar and R.K. Choudhary, <i>Phy.Rev.C</i> 84, (2011) 011602. (APS) 2. <i>Track etch parameters and annealing kinetics assessment of protons of low energy in CR-39 detector</i> R.K. Jain, A. Kumar and B.K. Singh, <i>NIM-B</i> 274 (2012) 100-104. (Elsevier) 3. <i>Measurement of Peak fluence of neutron beams using Bi-fission detectors</i> R.K. Jain, A. Kumar, N.L. Singh, L Tommasino and B.K. Singh, <i>Pramana - J. Phys.</i> 78(3) (2012) 492-498. (Springer) 4. <i>Study effect of gamma irradiation on the etching properties of lexan and makrofol-DE polycarbonate plastics</i> A. Kumar, R.K. Jain and B.K. Singh, <i>J Radioanal Nucl Chem.</i> 295 (1) (2013) 95-98. (Springer) 5. <i>Measurement of peak fluence of neutron beams using Bi-fission detectors</i> RK Jain, A Kumar, NL Singh, L Tommasino, BK Singh <i>Pramana</i> 78 (3), (2012) 493-498. (Springer) 6. <i>Etching and annealing characteristics of high energy 28 Silicon in Makrofol-DE polycarbonate plastic detectors</i> R.K. Jain, A. Kumar and B.K. Singh, <i>Ind. J of Physics</i> 87, (5) (2013), 479-485 (Springer)		

7. *Characteristics of disintegration of different emulsion nuclei by relativistic 28 Si nuclei at 3.7 A GeV* Ashwini Kumar, A. Prakash, **A. Kumar**, R. K. Jain and B. K. Singh, Pramana - J. Phys. 84(4) (2015) 591-608. (Springer)
8. *He-Ne Laser Effect on Etching Parameters of CR-39 Solid State Nuclear Track Detector* RK Jain, **A Kumar**, A Kumar, RN Chakraborty Int. J. of Cont. Res. Engg. & Tech. 9 (1), (2019) 68-72.
9. *Effects of UV irradiation on Fission – fragments track parameters in Makrofol-E Detectors* R K Jain, S Kumar, **A Kumar**, Aniket Kumar, M K Singh and V Singh. Int. J Mod. Phys. E 28 (12) (2019) pp 1950110.
10. *Impact of infrared radiation on track etching parameters of Lexan track detector to fission-fragments from 252 Cf source* R K Jain and **A. Kumar** NIM-B 474 (2020) pp 244-251. (Elsevier)
11. *Effects of He–Ne laser on etching parameters of lexan (polycarbonate) plastic track detector irradiated with fission fragments* R.K. Jain, Sanjay Kumar, Brijesh Goswami, R.N. Chakraborty, M.K. Singh, and **A. Kumar** Radiat. Meas. 137 (2020) pp 106442 (1-9).
12. *Impact of X-rays on fission fragments track etch parameters in Lexan detector as analyzed by FTIR spectroscopy* **A Kumar**, MK Singh, RK Jain Int. J Mod. Phys. E 31 (06) (2022), 2250058.
13. *UV effect on etching parameters and activation energy of CR-39 plastic detector* **A Kumar**, RK Jain Pramana 96 (3), (2022) 148. (Springer)

Research Papers Presented/Published in Conference Proceedings:

1. *Measurement of an effective mass attenuation coefficient for fission fragments in thorium targets* **A Kumar**, RK Jain, BK Singh, BK Nayak Proceedings of the International Symposium on Nuclear Physics, (2009) 356.
2. *Effect of UV-radiation on track etch parameters of CR-39 plastic track detectors* P Yadav, **A Kumar**, RK Jain, BK Singh, R Pathak, RN Chakrobari Proceedings of the seventeenth national symposium on SSNTD (2011) 40.
3. *Effect of UV-radiation on track etch parameters of CR-39 plastic track detectors* P Yadav, **A Kumar**, RK Jain, BK Singh, R Pathak, RN Chakrobari Proceedings of the seventeenth national symposium on SSNTD (2011) 66.
4. *Study of etching and annealing characteristics of 100 MeV Si ion in Makrofol-DE polycarbonate plastic detectors* R. K. Jain, **A. Kumar**, N. L. Singh, B. K. Nayak Proceedings of the DAE Symposium on Nuclear Physics 57 (2012) 686.
5. *Scaling Behaviour of the Multiplicity Distribution of Shower Particles at 3.7 A GeV* **A. Kumar**, R. K. Jain, B. K. Singh Proceedings of the DAE Symposium on Nuclear Physics 57 (2012) 528.
6. *Effect of infrared laser on bulk etch rate and track etch rate in Makrofol-E polycarbonate plastic detectors* **A. Kumar**, R K Jain, R N Chakraborty and B K Nayak Proceedings of the DAE Symposium on Nuclear Physics 58 (2013) 438.
7. *The Response of CR-39 Plastic Track Detector to Fission Fragments at Different Environmental (Temperature) Conditions* R K Jain, **A. Kumar**, R N Chakraborty and B K Nayak Proceedings of the DAE Symposium on Nuclear Physics 58 (2013) 564.
8. *Irradiation effect of CO 60 gamma rays on bulk etch rate, track etch rate and activation energy of CR 39 solid state nuclear track detector* R K Jain, **A. Kumar**, R N Chakraborty and B K Nayak Proceedings of

the DAE Symposium on Nuclear Physics 58 (2014) 124.

9. *FTIR analysis of UV irradiated CR 39 solid state nuclear track detector* **A. Kumar**, R K Jain, R N Chakraborty, Triloki Singh and B K Singh Proceedings of the DAE Symposium on Nuclear Physics 58 (2014) 329.
10. *X-ray induced modification in CR-39 Plastic Detector* **A. Kumar**, R K Jain, R N Chakraborty, Triloki, R Rai and B K Singh Proceedings of the DAE-BRNS Symposium on Nuclear Physics 60 (2015) 1016.
11. *FTIR Spectra of UV induced CR-39 Plastic Detectors* R K Jain, **A. Kumar**, R N Chakraborty and B K Singh Proceedings of the DAE-BRNS Symposium on Nuclear Physics 61 (2016) 1006.