List of Publications

I. International Journals:

1. Clusters in light, heavy, super-heavy and super-superheavy nuclei,

2. Collective clusterization in hot and rotating nuclei: Preformed-cluster based dynamical cluster-decay model,
   R. K. Gupta, S. K. Arun, Raj Kumar, and Niyti,

3. Universal functions for nuclear proximity potential using the semiclassical approach of energy density formalism,
   R. K. Gupta, D. Singh, Raj Kumar and W. Griener,

4. Decay of $^{118,122}$Ba$^*$ compound nuclei formed in $^{78,82}$Kr+$^{40}$Ca reactions using the dynamical cluster-decay model of preformed clusters,
   Raj Kumar and R. K. Gupta,

5. Dynamical Model for the Decay of Hot and Rotating Compound Nucleus,
   R. K. Gupta, D. Singh, S. K. Arun, Niyti and Raj Kumar,

6. Fusion-evaporation cross-sections for the $^{64}$Ni+$^{100}$Mo reaction using the dynamical cluster-decay model,
   S. K. Arun, Raj Kumar and R. K. Gupta,

7. Angular momentum effects and barrier modification in sub-barrier fusion reaction using the proximity potential in Wong formula,
   Raj Kumar, M. Bansal, S. K. Arun and R. K. Gupta,

8. Dynamical cluster-decay model for fusion cross-sections below the Barrier,
   R. K. Gupta, S. K. Arun, Raj Kumar, and M. Bansal,

9. Barrier modification in sub-barrier fusion reaction $^{64}$Ni+$^{100}$Mo using Wong formula with Skyrme forces in semiclassical formalism,
   Raj Kumar and R. K. Gupta,


II. Conferences, Symposia and Workshops:

(a) International:


2. Angular momentum effects as additional repulsion in proximity potential for capture cross sections of \(^{48}\text{Ca}^{+238}\text{U}\), Raj Kumar and R. K. Gupta, 2\textsuperscript{nd} Int. conf. on Current Problems of Nuclear Physics and Atomic Energy, June 09-15, 2008, Kyiv, Ukraine.

3. Isospin effects in decay of \(^{116-122}\text{Ba}^*\) nuclei, R. K. Gupta, D. Singh, S. K. Arun and Raj Kumar, 5\textsuperscript{th} International conference on Exotic Nuclei and Atomic masses (ENAM08), September 07-13, 2008, Ryn, Poland.


6. Dynamical cluster-decay model for fusion cross-sections below the barrier, R. K. Gupta, S. K. Arun, Raj Kumar and M. Bansal, 10\textsuperscript{th} International Conference on Nucleus-Nucleus Collisions (NN2009), August 16-21, 2009, Beijing, China.
7. Semi-classical extended Thomas Fermi model and sudden- or frozen-density approximation used in the Wong formula,
Raj Kumar and R. K. Gupta,

8. Modification of barrier with Skyrme forces to study the decay of $^{36}$Yb* using Wong formula,
Raj Kumar and R. K. Gupta,
International Nuclear Physics Conference (INPC2010), July 4-9, 2010, University of British Columbia, Vancouver, Canada.

9. Dynamical Cluster-decay Model applied to barrier modification effects in decay of compound nuclei, and shell stability in superheavy region,
R. K. Gupta, Niyti, Raj Kumar, M. Bansal,
2nd Workshop on “State of the Art in Nuclear Cluster Physics” (SOTANCP2) on May 25-28, 2010, Universite Libre de Bruxelles, Belgium.

10. Clusters in $^{18,20}$O and $^{22}$Ne nuclei using quantum mechanical fragmentation theory,
M. Bansal, Raj Kumar and R. K. Gupta,

11. Dependence of Proximity barrier in low energy heavy ion reactions on temperature and atomic mass of compound nucleus using dynamical cluster-decay model,
Raj Kumar, M. Bansal and R. K. Gupta,
5th International Conference FUSION11, May 2-6, 2011, GANIL, Saint-Malo, France.

(b) National:

1. A non-statistical dynamical description of the hot and rotating compound nucleus,
D. Singh, M. Manhas, S.K.Arun, Raj Kumar, N. Sharma and R. K. Gupta,
1st Chandigarh Science Congress (CHASCON2007), pp 225, 2007, Panjab University, Chandigarh, India.

2. Fusion cross-sections for $^{64}$Ni+$^{64}$Ni reaction at sub-barrier energies using the semiclassical formulation of Skyrme energy density functional,
Raj Kumar, D. Singh and R. K. Gupta,
DAE-BRNS Symp. on Nucl. Phys., 51, 405, 2007, Sambalpur University, Burla, Orissa, India.

3. Reaction dynamics of light, heavy and superheavy nuclei using dynamical cluster-decay model,
M. Manhas, D. Singh, S. K. Arun, Raj Kumar, Niyti, and R. K. Gupta,
11th Punjab science congress, Feb 7-9, 2008, BC-27, pp 30, Thapar University, Patiala, India.
4. Role of moment of inertia and of limiting angular momentum in heavy ion collisions,
   **Raj Kumar**, D. Singh, N. Sharma and R. K. Gupta,
   2\textsuperscript{nd} Chandigarh Science Congress (CHASCON2008), 2008, Panjab University, Chandigarh, India.

5. Effects of exchange terms on nucleus-nucleus interaction potential in semi-classical extended Thomas Fermi model,
   **Raj Kumar** and R. K. Gupta,

6. Sudden- or Frozen-density approximation in Semi-classical extended Thomas Fermi model for Wong formula used in $^{64}$Ni+$^{64}$Ni reaction,
   **Raj Kumar** and R. K. Gupta,
   INS National Seminar on “Nuclear Technology for Sustainable Development”,
   October 10-11, 2009, Thapar University, Patiala, India.

7. Dynamical cluster-decay model vs. Wong formula for the decay of hot and rotating compound nuclei,
   **Raj Kumar**, Niyti, M. Bansal, and R. K. Gupta,
   National Theme Workshop on Nuclear Reaction Mechanism, March 17-19, 2010, Panjab University, Chandigarh.

8. Dynamical cluster-decay model for the decay of hot and rotating compound nuclei,
   **Raj Kumar**, Niyti, M. Bansal, and R. K. Gupta,
   4\textsuperscript{th} Chandigarh Science Congress (CHASCON2010), March 19-20, p 207, 2010, Panjab University, Chandigarh, India.

9. Skyrme-force dependence of fusion cross-sections using Wong formula in semi-classical formalism,
   **Raj Kumar** and R. K. Gupta,

10. Barrier modification in sub-barrier fusion reactions using dynamical cluster-decay and extended-Wong models,
    **Raj Kumar**, M. Bansal and R. K. Gupta,
    5\textsuperscript{th} Chandigarh Science Congress (CHASCON2011), 2011, Panjab University, Chandigarh, India.