Orissa Journal of Physics
ISSN 0974-8202

Vol. 27, No.2 –
Vol. 29, No. 1
Aug. 2020 – Feb. 2022
pp. 59-70

Analysis of Projectile Motion with a Drag Force using MATLAB

S MAHAPATRA†, M. PATRA†, B S MAHAPATRA† and T K MAJHI† SK. AGARWALLA*CA, R BISWAL*, B NAYAK* , S PATTNAIK*, K.K CHAND* and HB NAYAK*
(†Students of Applied Physics and Ballistics)
(*Faculty Members of Applied Physics and Ballistics & IC&T)
(*CAcorresponding address :-(i) hodapab@gmail.com)

Received 27. 11. 2021 , Accepted 31.12. 2021

Abstract. The projectile motion, a branch science of exterior ballistics, the 61st branch of physics with drag force has been a complex physics and an interesting phenomenon of investigation for many centuries till today. It deals with the study of substantially below the speed of light. The advancement of the problem has come from three fields: physics, mathematics, and computation for various industry, civil, and military applications. As a physical and mathematical in nature, the focus has been given on the methods for computation, simulation and analysis of the governing equations of motion. In this paper, the projectile motion with various drag forces: (a) zero drag, (b) linear drag, (c) quadratic drag are computed, simulated and analysed for predicting various trajectories profiles with three set of input parameters using MATLAB source codes.