

Abstract. In this article, we give a new solution of the Four-Dogs Pursuit Problem by a system of linear ordinary differential equations with constant coefficients. First, we set up the system of linear ordinary differential equations with constant coefficients based on the fact that the trajectories of the four dogs have nothing to do with their speed if the speed of them are equal to each other at arbitrary instantaneous time. Then, we worked out the trajectory of each dog by the eigenvalues and eigenvectors of the coefficient matrix of the system of linear ordinary differential equations. Then, we calculated the length of the trajectory along with the time needed for the whole process and described the instantaneous position of each dog during the pursuing process. Finally, the MATLAB Code of plotting the trajectories of the four dogs is given in the Appendix.