$$n_a = \frac{L}{W} = \frac{L}{L \cdot \cos\gamma_s} = \frac{1}{\cos\gamma_s} \qquad (7)$$

From the formula above, the change of yaw angle in each sampling time can be obtained, which can simulate the UAV flight path.

IV. Simulation

The known conditions for simulation: the speed of the target: $V_t = 400m/s$, the angle between the horizontal reference line and the direction of target's speed, is a constant: $B_t = 20° = pi/9\ rad$, UAV velocity magnitude $V = 800m/s$, the angle between the horizontal reference line and the direction of UAV's speed is constantly changing, and the initial value is $\theta = 0° = 0rad$,the angle between the horizontal reference line and the connection of UAV and target ,is a variable, and the initial value is $q = 0° = 0rad$, the distance between UAV and target, and the initial value is $R = 10km$, the following are the simulation results:

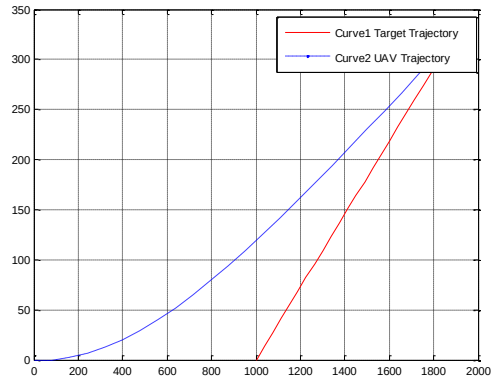

Fig .4 UAV and target trajectory

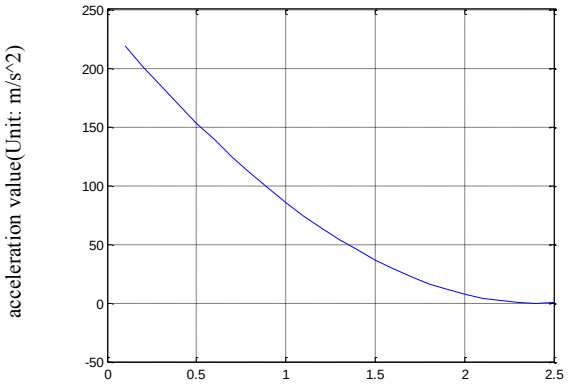

Fig. 5 UAV curve acceleration change

The simulations have been performed to show the applicability of the proposed fuzzy guidance law to combat situations. From the Figure 4, it can be seen that, control guidance system based on fuzzy can achieve a good UAV track that strikes the target. Furthermore figure 5 has shown that the ability of the proposed guidance law to generate satisfactory results with a small turn rate, and in order to accomplish in technology.

V. Conclusion

The paper showed that fuzzy guidance laws with the form of fuzzy rule bases can be successfully used for modeling very complicated air combat maneuvers. Research the classic guidance law, proportional navigation, regarded UAV as carrier aircraft to establish the airspace mathematical model. A controller is designed that combined proportional navigation and fuzzy theory, including the choice of variables, the determination of the membership function and fuzzy rules for the setting. The simulation results show that fuzzy guided method can make the guidance for UAV to reach the target area successfully and with a short time during whole procedure of navigation. The result has confirmed the truth that the system designed in this paper is efficacious.

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