603 Experiment Report Eyes

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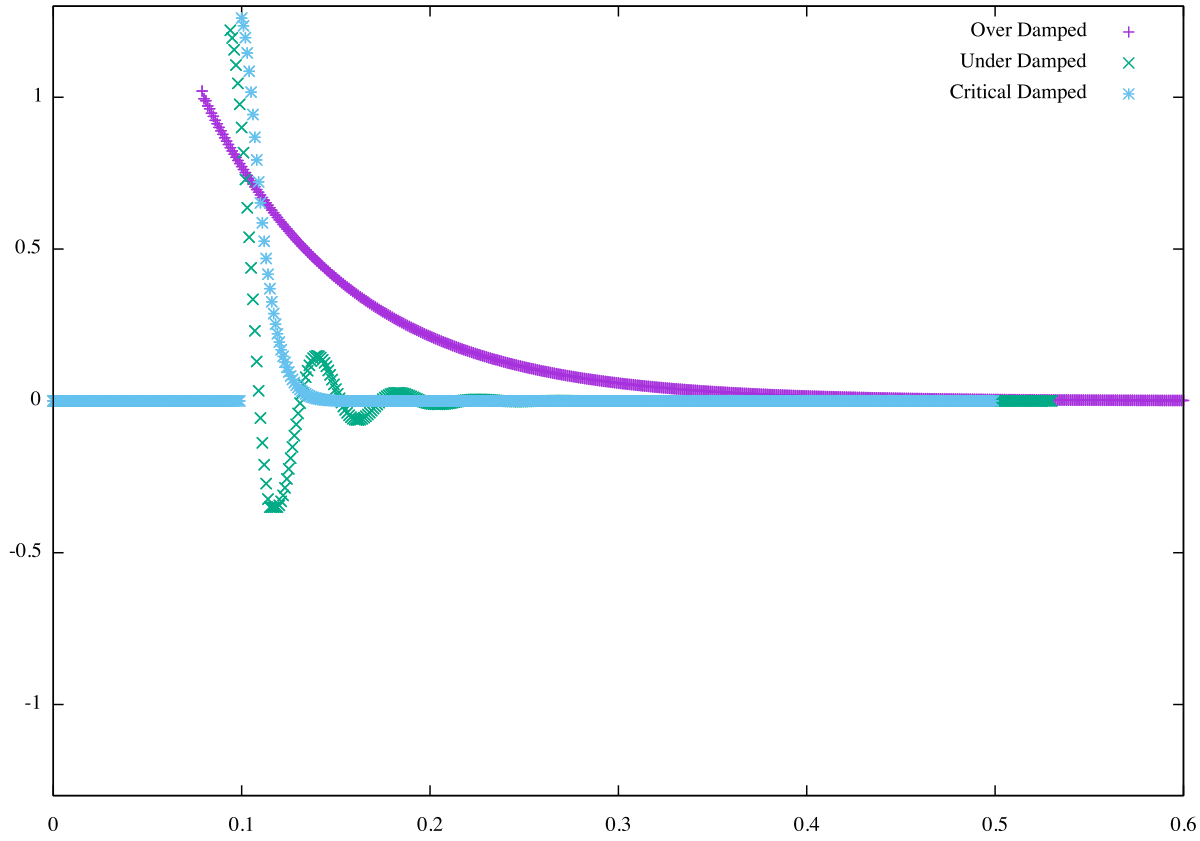
1.1 1

I started from small K for eyes but found it too slow for a reasonable eye movement. So I then increased the number of K bit by bit to 3.5, which gave me what is satisfying speed. Then I tried some B for the eye, starting from 0.01. Then similarly, increase it like a binary search way to generate a critical damping like behavior, which ended with $B = 0.04$.

1.2 Eye Damping Factor Plot



The y axis represents the $theta - error$ and y axis represents the time. The start points are different because they were hand clicked so the starting time and even the target points for the eye are different.

1.3 3

Theoretically, given the $K = 3.5$, the critical damping factor should be $B = 2\sqrt{KI} = 0.0334664$. However, it is under damped according to the experiment: