CONTROL SYSTEMS

Telescope project

SOEN 385

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Presented to

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# ABSTRACT

# INTRODUCTION

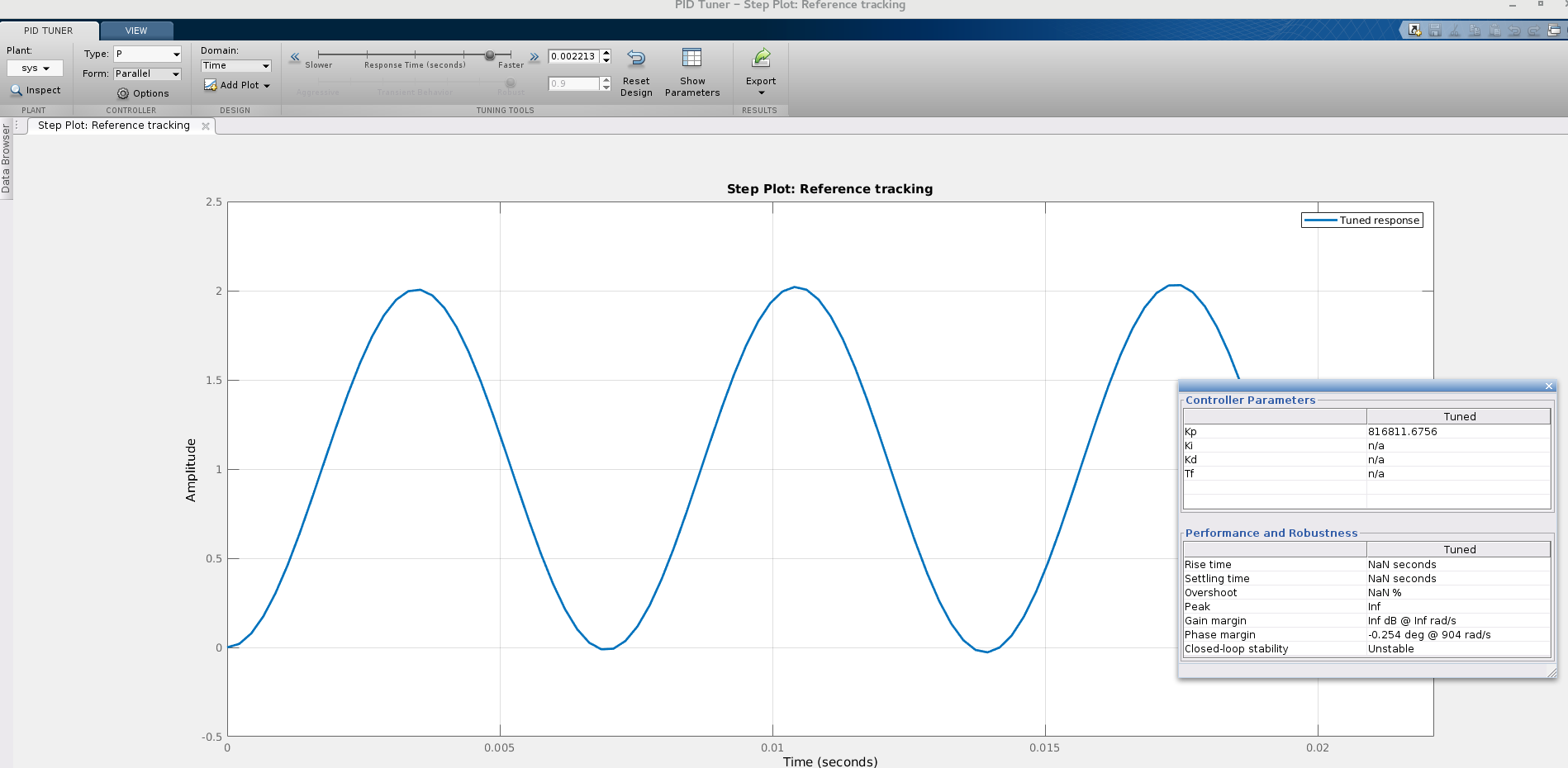
We are tasked with having a telescope take two pictures of 100 stars with specific positions in the sky. Each star has a coordinate indicated by its r, and values, representing their position as two angles and a distance. The telescope can rotate its orientation to point at these stars using two DC motors, one controlling the angle, the other the angle. These motors require a control system for optimal functionality.

# ANALYSIS

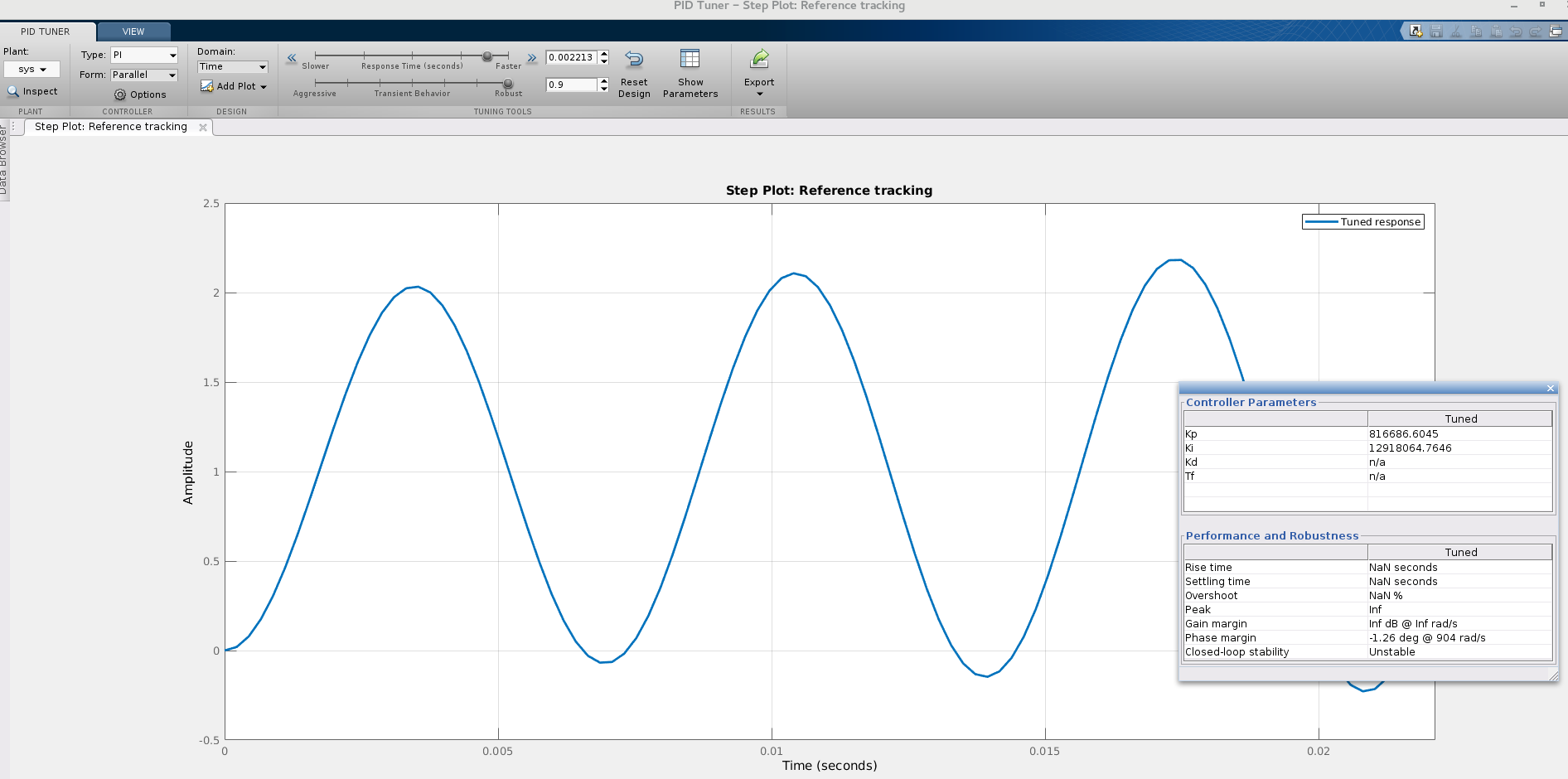
a) Using the G(S) = 1/(S-1)(S-3), and H(S) to be equal = 1.

We get the following results for

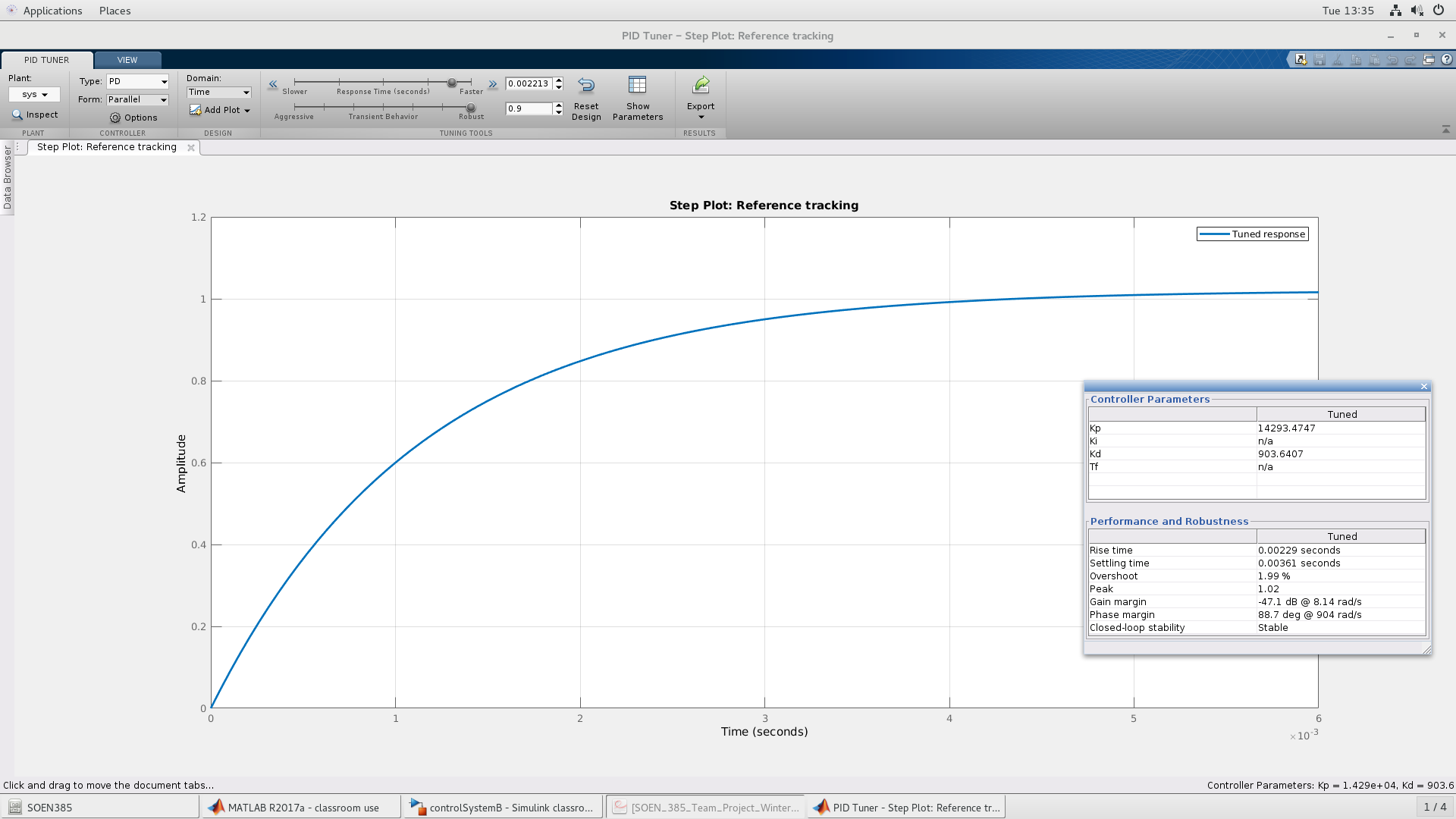
**The P system**

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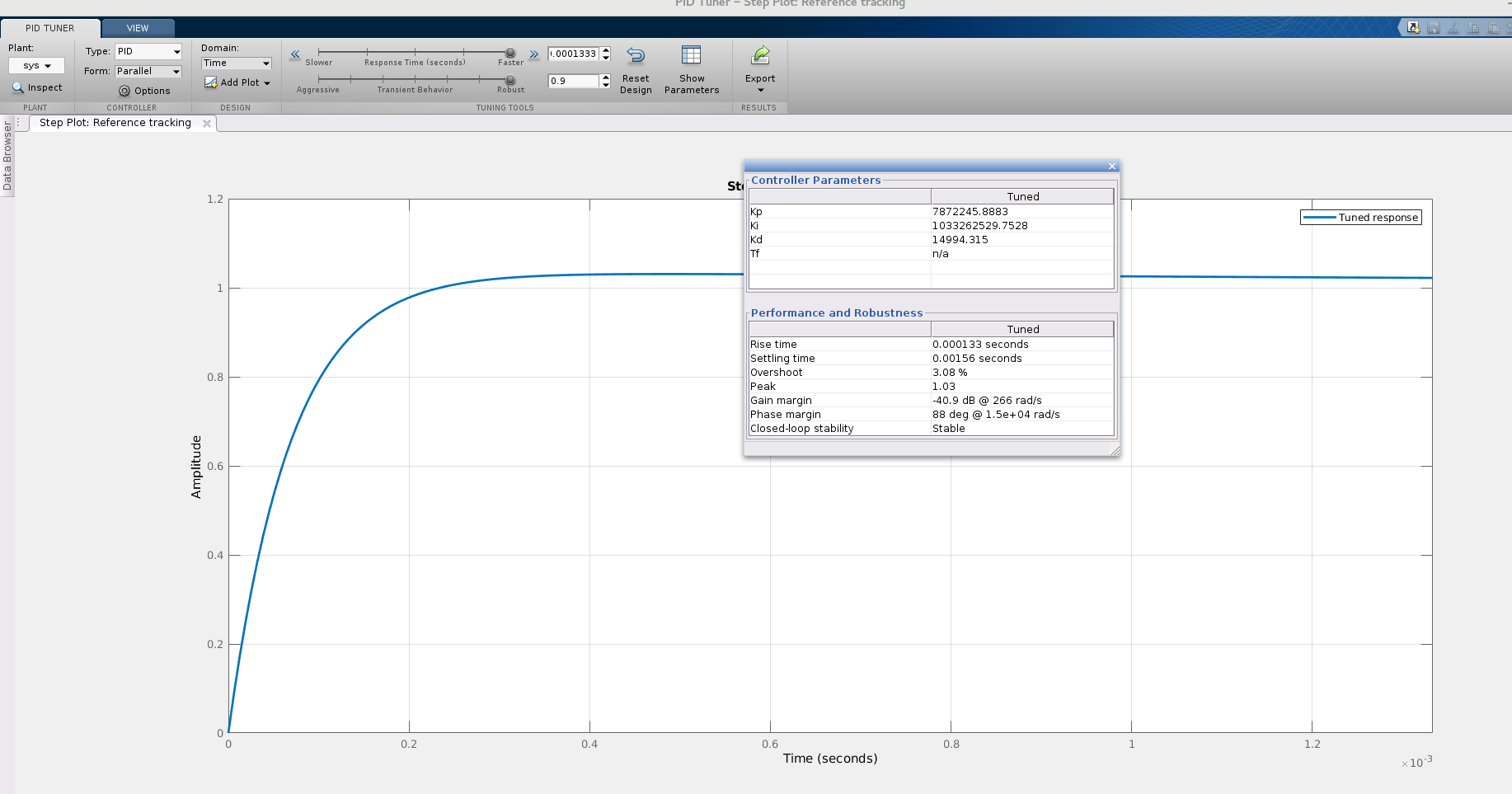
**The PI system**



**The PD system**



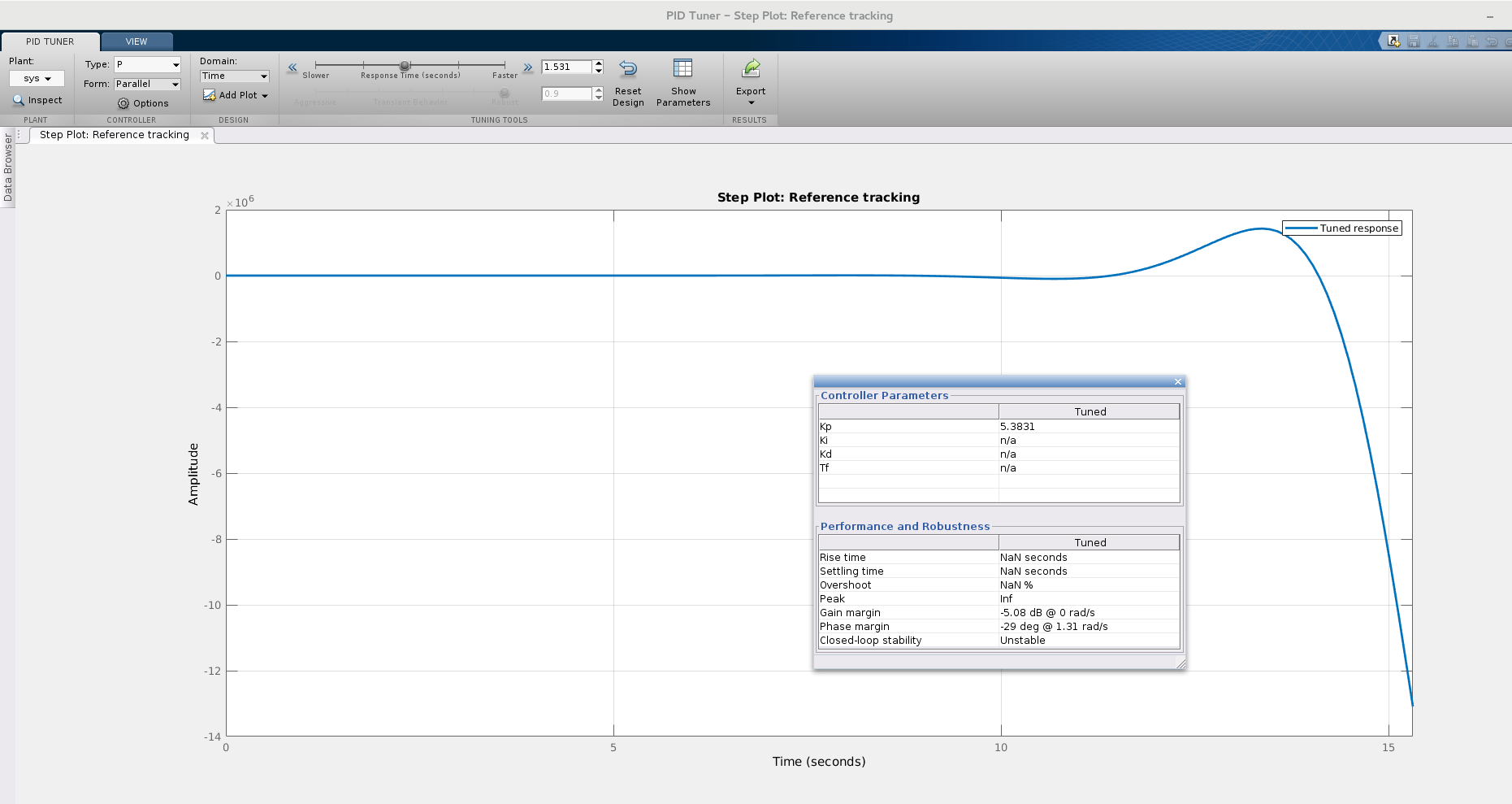
**The PID system**



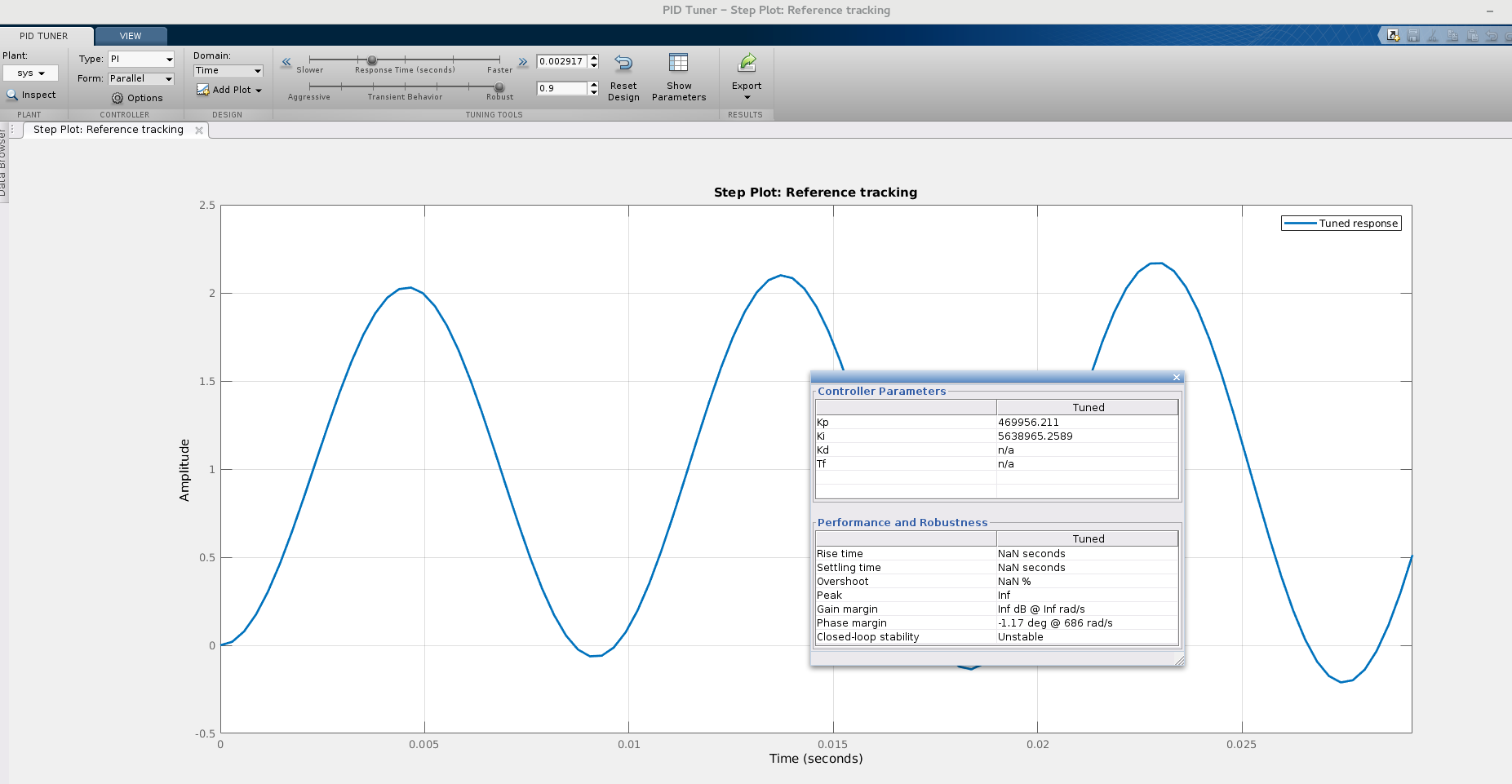
b) Using the G(S) = 1/(S+1)(S-3), and H(S) to be equal to = 0.1

We get the following results for

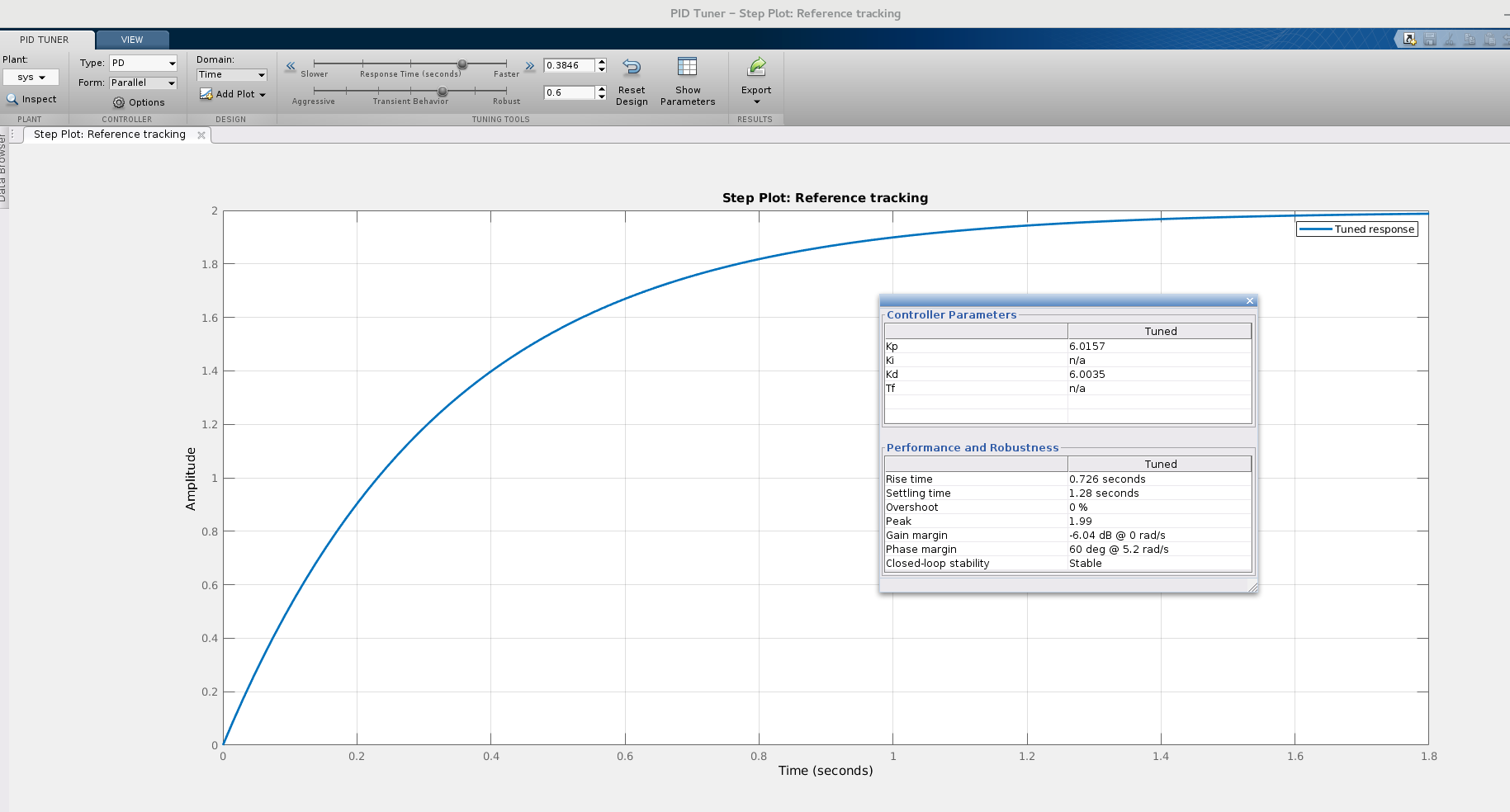
**The P system**



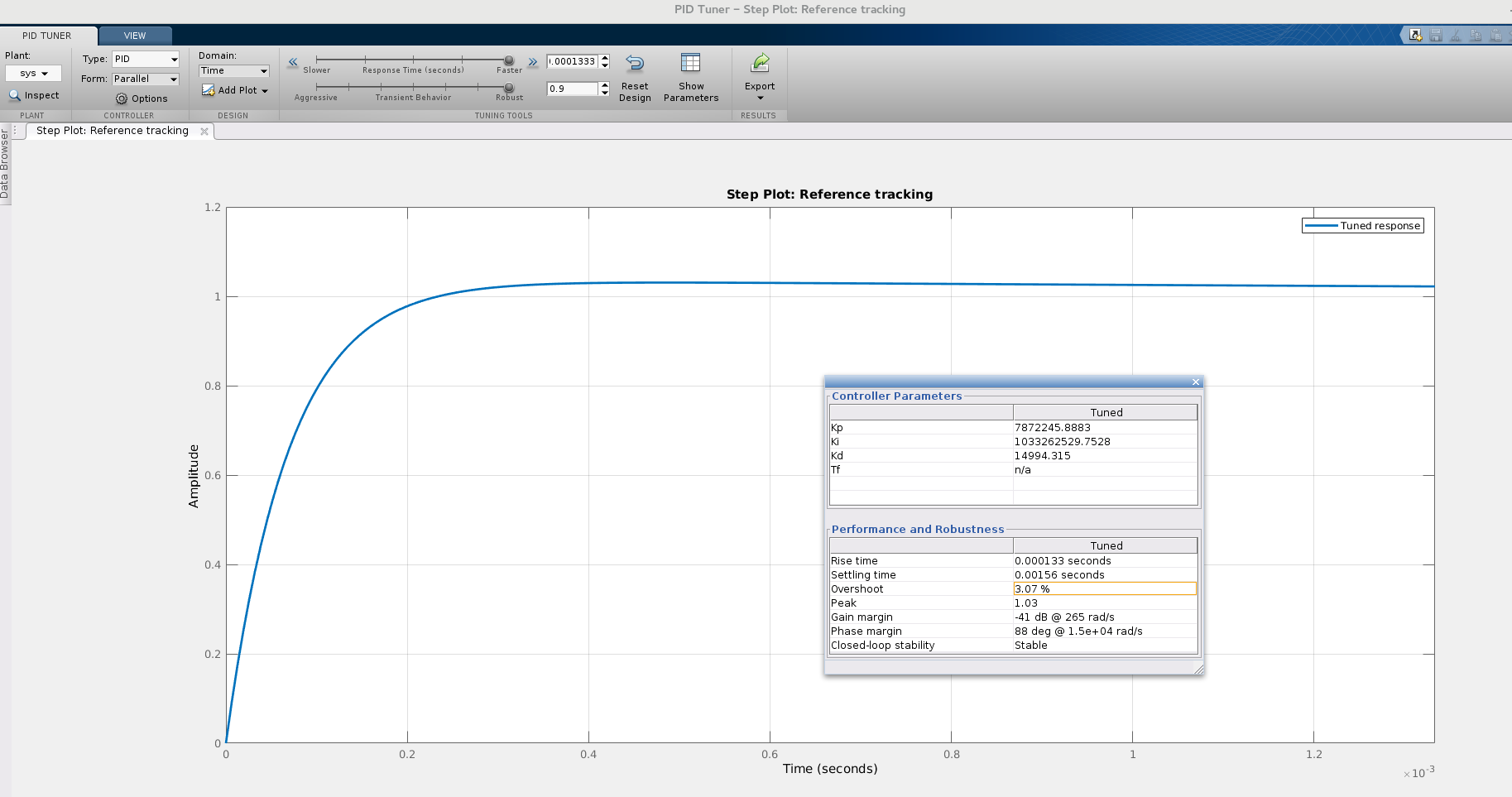
**The PI system**



**The PD system**



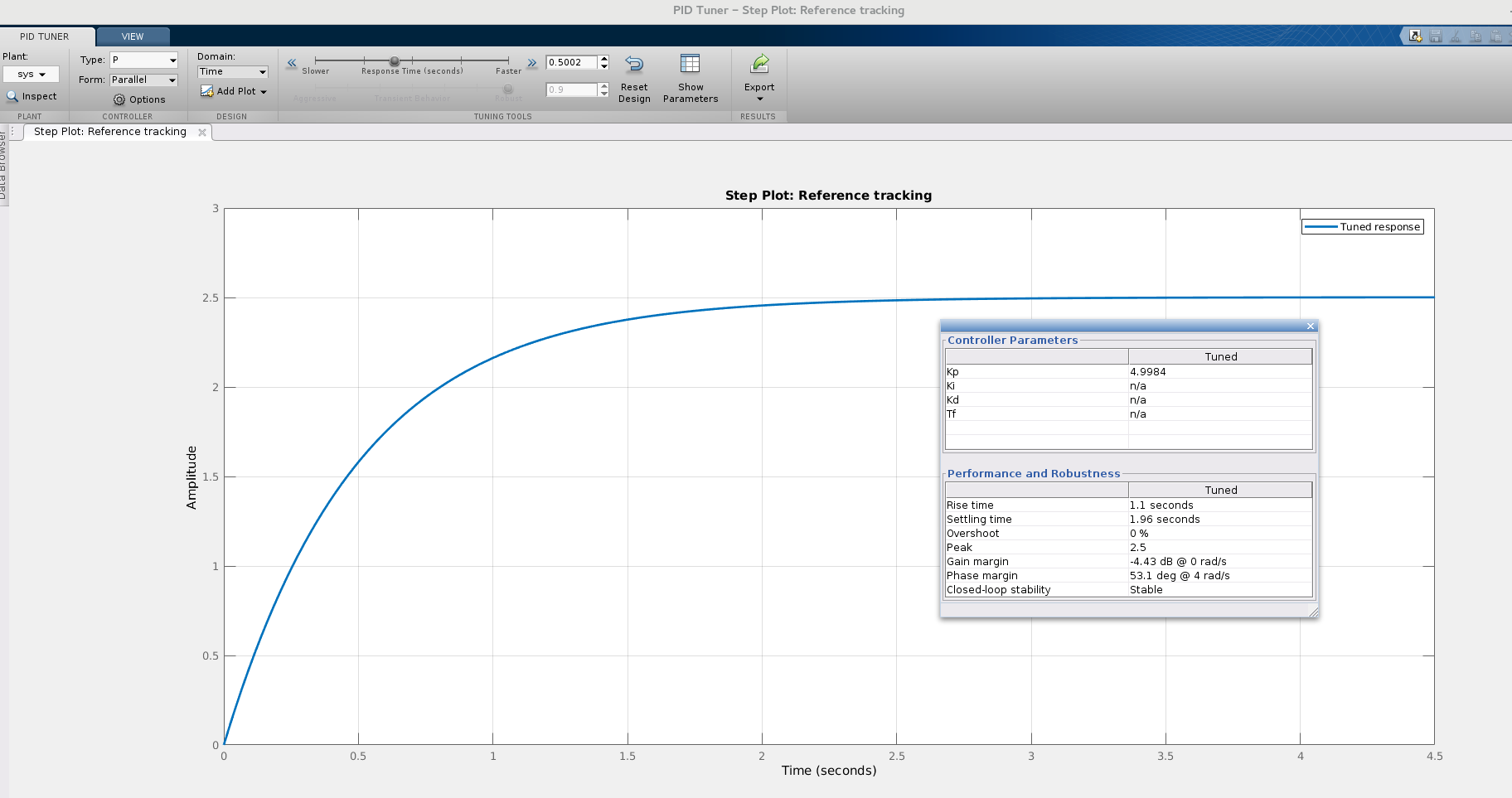
**The PID system**



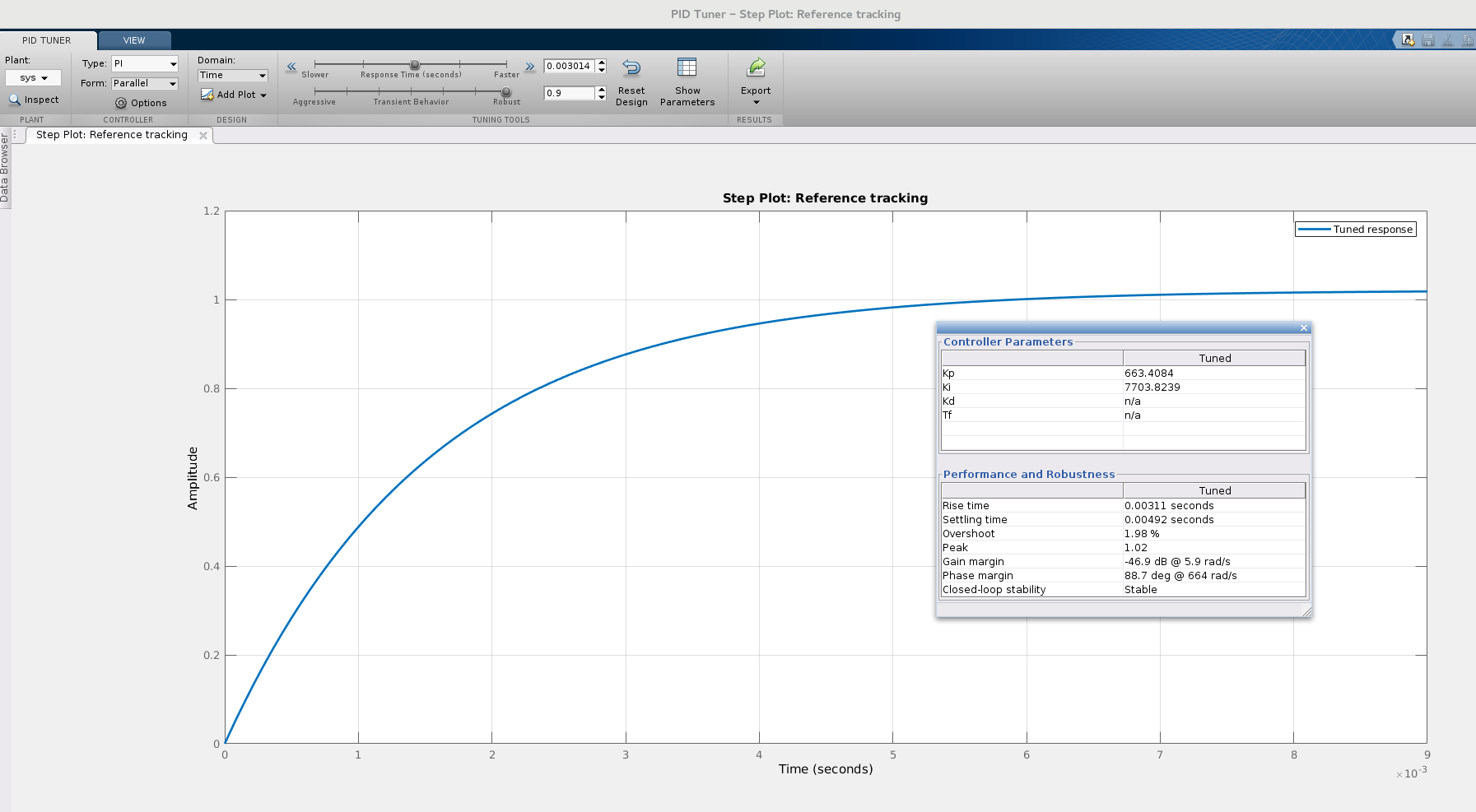
c) Using the G(S) = 1/(S-3) and H(S) to = 0.1/(S+1)

We get the following results for

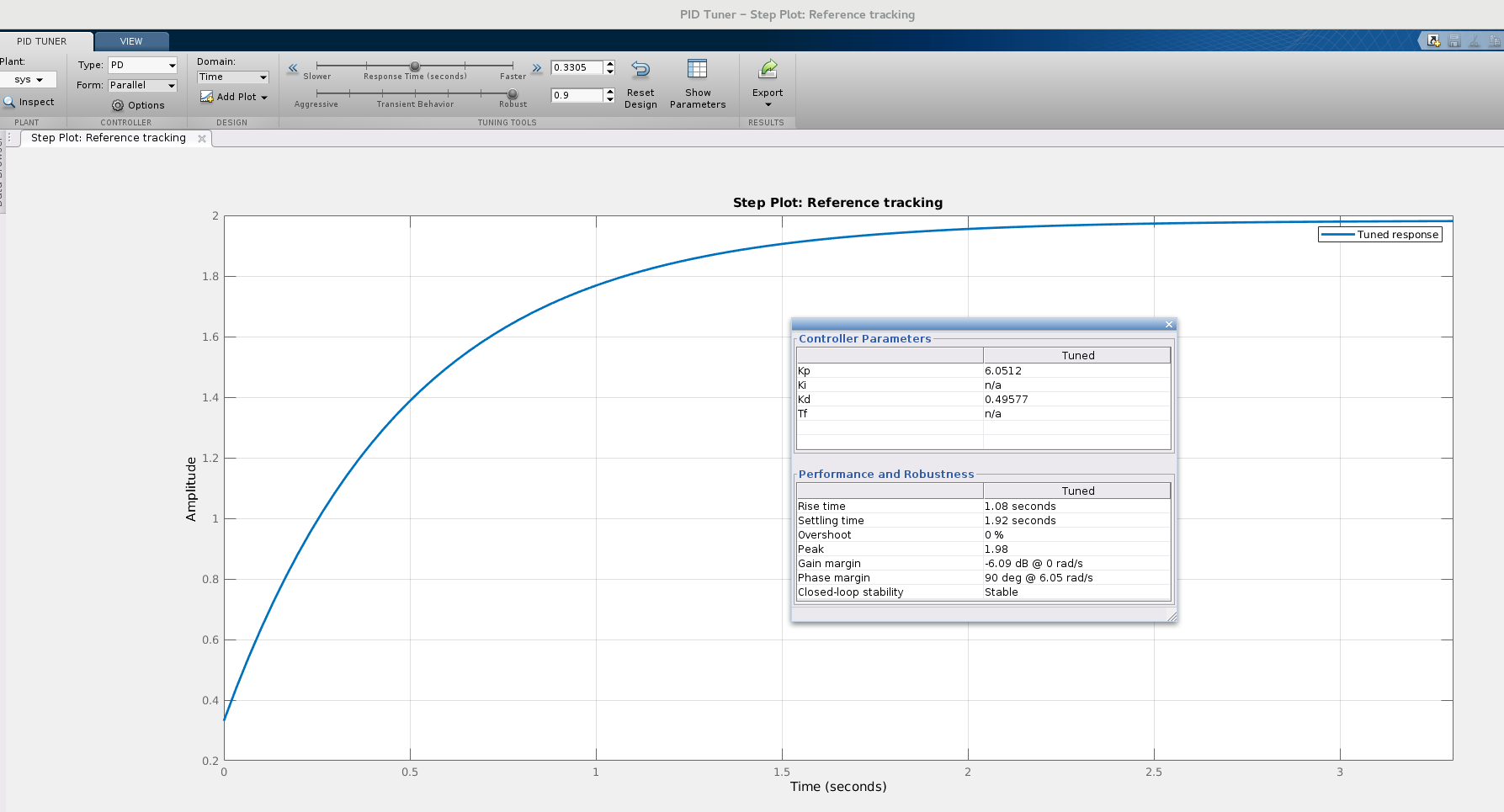
**The P system**



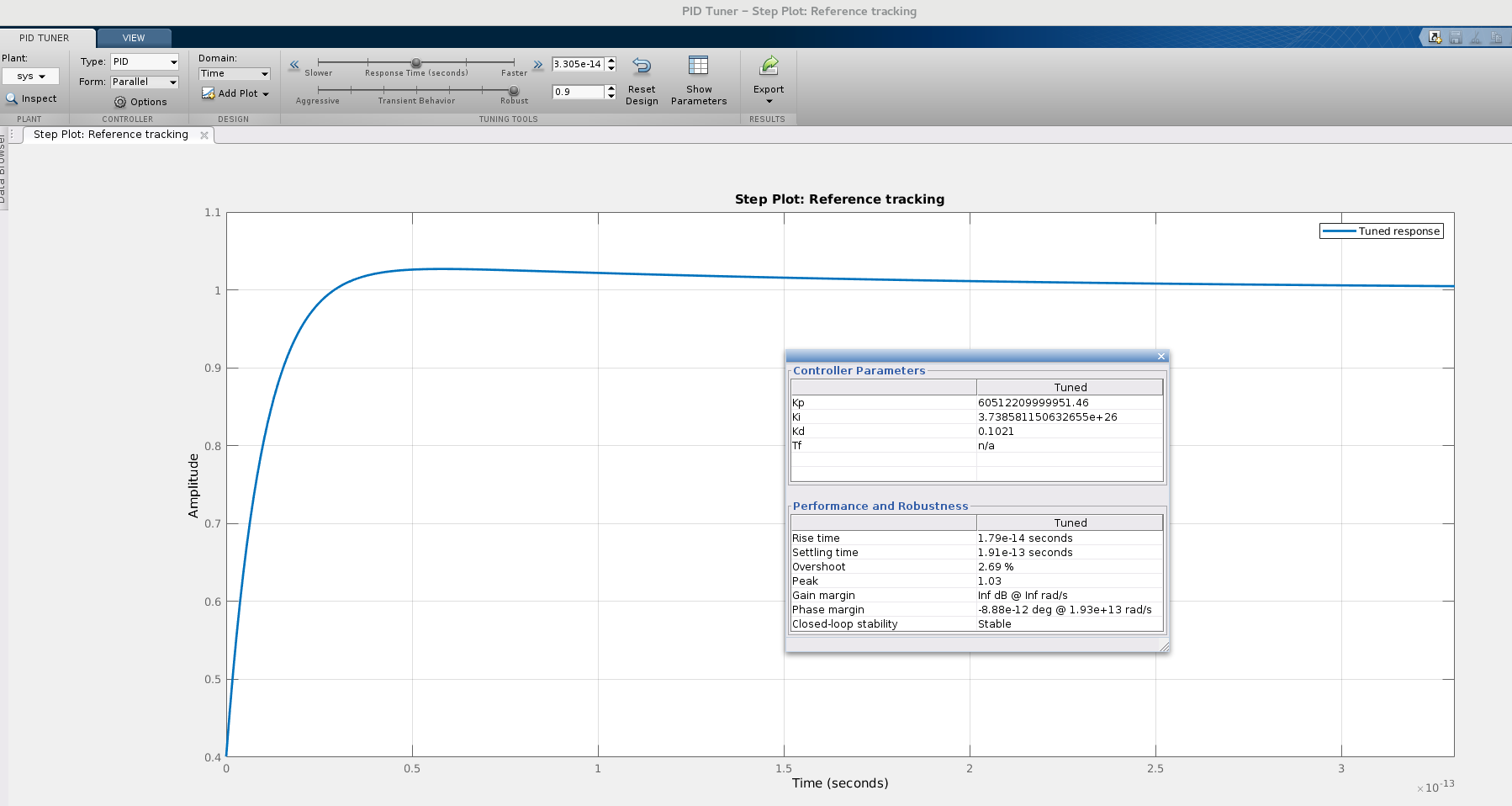
**The PI sytem**



**The PD system**



**The PID system**



# DESIGN

We designed it using matlab and Simulink the end.

# IMPLEMENTATION

We implemented it using matlab and Simulink the end.