Assignment 2

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**Task 1:**

The answer can be found in the class astrobee under the method cartesian\_ground\_dynamics. It is implemented between the rows 68 to 74. See figure 1.

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Figure 1 - A and B matrices

**Task 2:**

See the code in the file task2.py for the use of the methods casadi\_c2d and set\_discrete\_dynamics.

**Task 3:**

The rendezvous constraints are declared as in figure 2.

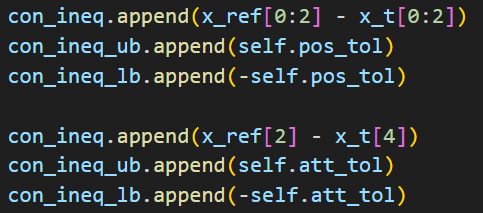


Figure 2 - Rendezvous constrains

Where and

**Task 4:**

The simulation resulted in the following plots:

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The position plot in the graph to the right differs in every round? Also happens in task5.

**Task 5:**

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What do you observe when you feed the system with the previously generated control inputs? What do you believe is the root cause for this behavior?

**Task 6:**

**Task 7:**