# Roll input to roll angle and lateral velocity

## Input and output

|  |  |
| --- | --- |
| Roll input to roll angle | Roll input to lateral velocity |
|  |  |

## Transfer Function

|  |  |
| --- | --- |
| Roll input to roll angle | Roll input to lateral velocity |
| Best Fits: 78.91 | Best Fits: 83.63 |
|  |  |
|  |  |

## Process Model

|  |  |
| --- | --- |
| Roll input to roll angle | Roll input to lateral velocity |
| Best Fits: 78.84 | Best Fits: 82.77 |
|  |  |
| Kp = 0.00056511  Tp1 = 0.098655  Td = 0.055117 | Kp = -0.022926  Tp1 = 2.3002  Td = 0.17333 |

## Spectral Model

|  |  |
| --- | --- |
| Roll input to roll angle | Roll input to lateral velocity |
|  |  |

# Pitch input to pitch angle and longitudinal velocity

## Input and output

|  |  |
| --- | --- |
| Pitch input to pitch angle | Pitch input to longitudinal velocity |
|  |  |

## Transfer Function

|  |  |
| --- | --- |
| Pitch input to pitch angle | Pitch input to longitudinal velocity |
| Best fits : 77.33 | Best fits : 84.62 |
|  |  |
|  |  |

## Process Model

|  |  |
| --- | --- |
| Pitch input to pitch angle | Pitch input to longitudinal velocity |
| Best fits : 77.28 | Best fits : 84.46 |
| Kp = 0.0005286  Tp1 = 0.077102  Td = 0.078416 | Kp = 0.034686  Tp1 = 3.379  Td = 0.16085 |
|  |  |

## Spectral Model

|  |  |
| --- | --- |
| Pitch input to pitch angle | Pitch input to longitudinal velocity |
|  |  |

# Yaw input to yaw rate

## Input and output



## Transfer Function



Best fits: 91.07

## Process Model



Best fits: 87.34

Kp = -0.0058623 , Tp1 = 0.15726, Td = 0

## Spectral Model



# Heave input to heave velocity

## Input and output



## Transfer Function



Best fits: 70.85

## Process Model



Best fits: 70.62

Kp = 0.027995, Tp1 = 1.5362, Td = 0.064386

## Spectral Model

