```
>> tf5=tfest(ident_labsys,[1 1],[1 1],'Ts',1,'Feedthrough',zeros(1,2))

tf5 =

  From input "u1" to output "y1":
    0.0164 z^-1
  ---------------
  1 - 0.9992 z^-1

  From input "u2" to output "y1":
  0.0006798 z^-1
  ---------------
  1 - 0.9993 z^-1

Sample time: 1 seconds
Discrete-time identified transfer function.

Parameterization:
   Number of poles: [1 1]   Number of zeros: [1 1]
   Number of free coefficients: 4
   Use "tfdata", "getpvec", "getcov" for parameters and their uncertainties.

Status:
Estimated using TFEST on time domain data "ident_labsys".
Fit to estimation data: 95.57%
FPE: 0.2309, MSE: 0.2307
>> tf5toMPC=setmpcsignals(tf5,'MD',1,'MV',2)

tf5toMPC =

  From input "u1" to output "y1":
    0.0164 z^-1
  ---------------
  1 - 0.9992 z^-1

  From input "u2" to output "y1":
  0.0006798 z^-1
  ---------------
  1 - 0.9993 z^-1

Input groups:
       Name        Channels
     Measured         1
    Manipulated       2

Output groups:
      Name      Channels
    Measured       1

Sample time: 1 seconds
Discrete-time identified transfer function.

Parameterization:
   Number of poles: [1 1]   Number of zeros: [1 1]
   Number of free coefficients: 4
```

```
   Use "tfdata", "getpvec", "getcov" for parameters and their uncertainties.

Status:
Estimated using TFEST on time domain data "ident_labsys".
Fit to estimation data: 95.57%
FPE: 0.2309, MSE: 0.2307
>> mpc_labsys=mpc(tf5toMPC,300)
-->Converting linear model from System Identification Toolbox to state-space.
-->The "PredictionHorizon" property of "mpc" object is empty. Trying PredictionHorizon↙
= 10.
-->The "ControlHorizon" property of the "mpc" object is empty. Assuming 2.
-->The "Weights.ManipulatedVariables" property of "mpc" object is empty. Assuming↙
default 0.00000.
-->The "Weights.ManipulatedVariablesRate" property of "mpc" object is empty. Assuming↙
default 0.10000.
-->The "Weights.OutputVariables" property of "mpc" object is empty. Assuming default↙
1.00000.

MPC object (created on 04-Dec-2018 22:36:40):
---------------------------------------------
Sampling time:      300 (seconds)
Prediction Horizon: 10
Control Horizon:    2

Plant Model:
                                      --------------
      1  manipulated variable(s)   -->|  2 states  |
                                      |            |-->  1 measured output(s)
      1  measured disturbance(s)   -->|  2 inputs  |
                                      |            |-->  0 unmeasured output(s)
      0  unmeasured disturbance(s) -->|  1 outputs |
                                      --------------
Indices:
  (input vector)    Manipulated variables: [2 ]
                    Measured disturbances: [1 ]
  (output vector)        Measured outputs: [1 ]

Disturbance and Noise Models:
        Output disturbance model: default (type "getoutdist(mpc_labsys)" for details)
         Measurement noise model: default (unity gain after scaling)

Weights:
        ManipulatedVariables: 0
    ManipulatedVariablesRate: 0.1000
             OutputVariables: 1
                         ECR: 100000

State Estimation:  Default Kalman Filter (type "getEstimator(mpc_labsys)" for details)

Unconstrained
>>
```