

# Matave Identification ToolBox

A State Space Approach

Version 11.2

## Linear System Algorithms

<i>Function name</i>	<i>Description</i>	<i>Status</i>	<i>Model</i>
eradc	Eigensystem Realization Algorithm Data Correlation	Done	MIMO
ocid	Observer Controller IDentification	Done	MIMO
rls	Recursive Least Square	Done	SISO
n4sid	Numerical algorithms for Subspace State Space System IDentification	Done	MIMO

## Nonlinear System Algorithms

<i>Function name</i>	<i>Description</i>	<i>Status</i>	<i>Model</i>
sindy	Sparse Identification of Nonlinear Dynamics	Done	MIMO
sr_ukf_parameter_estimation	Estimate parameters for a nonlinear system. Notice that this is parameter estimation and very similar to system identification	Done	MIMO

## Analysis and filtering

<i>Function name</i>	<i>Description</i>	<i>Status</i>	<i>Data</i>
spa	Plot bode spectral analysis plot using Fast Fourier Transform	Done	Required
filtfilt2	Zero phase filtering with low pass filter	Done	Required
idbode	Plot bode diagram from frequency data	Done	Required
rpca	Filter data using Robust Principal Component Analysis	Done	Required
ica	Separate signals from each other so they are independent	Done	Required
sr_ukf_state_estimation	Estimate states for a nonlinear system using square root uncencted kalman filter.	Done	MIMO

## Classification

<i>Function name</i>	<i>Description</i>	<i>Status</i>	<i>Data</i>
svm	Support Vector Machine with C generation for CControl	Done	Required

## Miscellaneous

<i>Function name</i>	<i>Description</i>	<i>Status</i>	<i>Internet connection</i>
updatemataveid	Update the Mataveid library	Done	Required