

**The list below identifies the functions available in Star-P® release 2.6.0,
equivalent to corresponding MATLAB® Toolbox functions.**

Functions available for Task-Parallel Computing:

Function Name	Description
Communications Toolbox	
awgn	Add white Gaussian noise to signal
bi2de	Convert binary vectors to decimal numbers
biterr	Compute number of bit errors and bit error ratebit error rate (BER)
compand	Source code mu-law or A-law compressor or expander
convmtx	Convolution matrix of Galois field vector
cyclgen	Produce parity-check and generator matrices for cyclic code
cyclpoly	Produce generator polynomials for cyclic code
de2bi	Convert decimal numbers to binary vectors
dftmtx	Discrete Fourier transform matrix in Galois field
gf	Create Galois field array
gftable	Generate file to accelerate Galois field computations
gfweight	Calculate minimum distance of linear block code
hamngen	Produce parity-check and generator matrices for Hamming code
isprimitive	True for primitive polynomial for Galois field
mldivide	Matrix left division \ of Galois arrays
primpoly	Find primitive polynomials for Galois field
randerr	Generate bit error patterns
randint	Generate matrix of uniformly distributed random integers
randsrc	Generate random matrix using prescribed alphabet
vec2mat	Convert vector into matrix
wgn	Generate white Gaussian noise
Control System Toolbox	
append	Group LTI models by appending their inputs and outputs
bode	Compute Bode frequency response of LTI models
c2d	Discretize continuous-time systems
ctrb	Form controllability matrix
d2c	Convert discrete-time LTI models to continuous time
damp	Compute damping factors and natural frequency
dare	Solve discrete-time algebraic Riccati equations (DAREs)
dcgain	Compute low-frequency (DC) gain of LTI system
dlqr	Design linear-quadratic (LQ) state-feedback regulator for discrete-time plant
dlyap	Solve discrete-time Lyapunov equations
gram	Compute controllability and observability grammians
impz	Compute impulse response of LTI model
lqg	Continuous linear-quadratic-Gaussian (LQG) control synthesis
lqr	Design linear-quadratic (LQ) state-feedback regulator for state-space system

lsim	Simulate LTI model responses to arbitrary inputs
lyap	Solve continuous-time Lyapunov equation
nichols	Compute Nichols frequency responses of LTI models
nyquist	Compute Nyquist frequency response of LTI models
obsv	Form observability matrix
ord2	Generate continuous second-order systems
parallel	Parallel connection of two LTI models
place	Pole placement design
pzmap	Compute pole-zero map of LTI models
rlocus	Evans root locus
series	Series connection of two LTI models
ss	Specify state-space models or convert LTI model to state space
step	Step response of LTI systems
tf	Specify transfer function or convert LTI model to transfer function form

Curve Fitting Toolbox

argnames	Input argument names of cfit or fitype object
formula	Formula of cfit or fitype object

Database Toolbox

columns	Database table column names
exec	Execute SQL statement and open cursor
rows	Number of rows in fetched data set

Filter Design Toolbox

butter	Butterworth IIR filter design using specification object
cheby1	Chebyshev Type I filter using specification object
cheby2	Chebyshev Type II filter using specification object
freqz	Frequency response of filter
grpdelay	Filter group delay

Financial Toolbox

irr	Internal rate of return
minus	Financial time series subtraction
mrdivide	Financial time series matrix division
plus	Financial time series addition
rdivide	Financial time series division
times	Financial time series multiplication
uminus	Unary minus of financial time series object
uplus	Unary plus of financial time series object

Fixed-Point Toolbox

bar	Create vertical bar graph
int16	Stored integer value of fi object as built-in int16
int32	Stored integer value of fi object as built-in int32
int8	Stored integer value of fi object as built-in int8
mesh	Create mesh plot
range	Numerical range of fi or quantizer object
semilogx	Create semilogarithmic plot with logarithmic x-axis

semilogy	Create semilogarithmic plot with logarithmic y-axis
uint16	Stored integer value of fi object as built-in uint16
uint32	Stored integer value of fi object as built-in uint32
uint8	Stored integer value of fi object as built-in uint8

Image Processing Toolbox

applylut	Neighborhood operations on binary images using lookup tables
bestblk	Determine optimal block size for block processing
blkproc	Distinct block processing for image
bwarea	Area of objects in binary image
bweuler	Euler number of binary image
bwlabel	Label connected components in binary image
bwmorph	Morphological operations on binary images
bwselect	Select objects in binary image
cmpermute	Rearrange colors in colormap
cmunique	Eliminate duplicate colors in colormap; convert grayscale or truecolor image to indexed image
col2im	Rearrange matrix columns into blocks
colfilt	Columnwise neighborhood operations
conndef	Create connectivity array
corr2	2-D correlation coefficient
dct2	2-D discrete cosine transform
dctmtx	Discrete cosine transform matrix
edge	Find edges in grayscale image
gray2ind	Convert grayscale or binary image to indexed image
graycomatrix	Create gray-level co-occurrence matrix from image
grayslice	Convert grayscale image to indexed image using multilevel thresholding
histeq	Enhance contrast using histogram equalization
idct2	2-D inverse discrete cosine transform
im2bw	Convert image to binary image, based on threshold
im2col	Rearrange image blocks into columns
imadjust	Adjust image intensity values or colormap
imhist	Display histogram of image data
imnoise	Add noise to image
imresize	Resize image
imrotate	Rotate image
imshow	Display image
ind2gray	Convert indexed image to grayscale image
isbw	True for a binary image
isgray	True for grayscale image
isind	True for indexed image
isrgb	True for RGB image
makelut	Create lookup table for use with applylut
mat2gray	Convert matrix to grayscale image
mean2	Average or mean of matrix elements

medfilt2	2-D median filtering
nlfilter	General sliding-neighborhood operations
ntsc2rgb	Convert NTSC values to RGB color space
ordfilt2	2-D order-statistic filtering
padarray	Pad array
poly2mask	Convert region-of-interest polygon to region mask
qtdecomp	Quadtree decomposition
qtgetblk	Block values in quadtree decomposition
qtsetblk	Set block values in quadtree decomposition
rgb2gray	Convert RGB image or colormap to grayscale
rgb2ind	Convert RGB image to indexed image
rgb2ntsc	Convert RGB color values to NTSC color space
roicolor	Select region of interest (ROI) based on color
std2	Standard deviation of matrix elements
stretchlim	Find limits to contrast stretch image
uintlut	Compute new values of A based on lookup table (LUT)

Link for Code Composer Studio

list Information listings from CCS

Mapping Toolbox

rad2deg Convert angle units from radians to degrees

Neural Network Toolbox

minmax Ranges of matrix rows

Optimization Toolbox

fmincon Find minimum of constrained nonlinear multivariable function

fminunc Find minimum of unconstrained multivariable function

fminsearch Find minimum of unconstrained multivariable function using derivative-free method

fsolve Solve system of nonlinear equations

Robust Control Toolbox

h2syn H2 control synthesis for LTI plant

hinfsyn H optimal controller synthesis for LTI plant

Signal Processing Toolbox

ac2poly Convert autocorrelation sequence to prediction polynomial

ac2rc Convert autocorrelation sequence to reflection coefficients

arburg Estimate AR model parameters using Burg method

aryule Estimate AR model parameters using Yule-Walker method

bartlett Bartlett window

bilinear Bilinear transformation method for analog-to-digital filter conversion

blackman Blackman window

buttord Butterworth filter order and cutoff frequency

chirp Swept-frequency cosine

dct Discrete cosine transform (DCT)

fftfilt FFT-based FIR filtering using overlap-add method

filtic Initial conditions for transposed direct-form II filter implementation

flattopwin	Flat Top weighted window
gausswin	Gaussian window
hamming	Hamming window
hann	Hann (Hanning) window
hilbert	Discrete-time analytic signal using Hilbert transform
idct	Inverse discrete cosine transform
kaiser	Kaiser window
kaiserord	Kaiser window FIR filter design estimation parameters
levinson	Levinson-Durbin recursion
medfilt1	1-D median filtering
periodogram	PSD using a periodogram
poly2ac	Convert prediction filter polynomial to autocorrelation sequence
poly2rc	Convert prediction filter polynomial to reflection coefficients
polystab	Stabilize polynomial
rc2ac	Convert reflection coefficients to autocorrelation sequence
rc2poly	Convert reflection coefficients to prediction filter polynomial
rectpuls	Sampled aperiodic rectangle
residuez	z-transform partial-fraction expansion
sgolay	Savitzky-Golay filter design
sgolayfilt	Savitzky-Golay filtering
sinc	Sinc
ss2zp	Convert state-space filter parameters to zero-pole-gain form
tf2ss	Convert transfer function filter parameters to state-space form
tf2zp	Convert transfer function filter parameters to zero-pole-gain form
triang	Triangular window
xcorr	Cross-correlation
xcorr2	2-D cross-correlation
xcov	Cross-covariance
zp2ss	Convert zero-pole-gain filter parameters to state-space form
zp2tf	Convert zero-pole-gain filter parameters to transfer function form

Spline Toolbox

csape	Cubic spline interpolation with end conditions
csapi	Cubic spline interpolation
fnder	Differentiate function
fnplt	Plot function
fnval	Evaluate function

Statistics Toolbox

betacdf	Beta cumulative distribution function
betainv	Inverse of beta cumulative distribution function
betapdf	Beta probability density function
betarnd	Random numbers from beta distribution
binocdf	Binomial cumulative distribution function
binoinv	Inverse of binomial cumulative distribution function
binopdf	Binomial probability density function

binornd	Random numbers from binomial distribution
chi2cdf	Chi-square cumulative distribution function
chi2inv	Inverse of chi-square cumulative distribution function
chi2pdf	Chi-square probability density function
chi2rnd	Random numbers from chi-square distribution
expcdf	Exponential cumulative distribution function
expfit	Parameter estimates and confidence intervals for exponentially distributed data
expinv	Inverse of exponential cumulative distribution function
exppdf	Exponential probability density function
exprnd	Random numbers from exponential distribution
fcdf	F cumulative distribution function
ff2n	Two-level full-factorial designs
finv	Inverse of F cumulative distribution function
fpdf	F probability density function
frnd	Random numbers from F distribution
gamcdf	Gamma cumulative distribution function
gaminv	Inverse of gamma cumulative distribution function
gampdf	Gamma probability density function
gamrnd	Random numbers from gamma distribution
geocdf	Geometric cumulative distribution function
geoinv	Inverse of geometric cumulative distribution function
geomean	Geometric mean of sample
geopdf	Geometric probability density function
geornd	Random numbers from geometric distribution
harmmean	Harmonic mean of sample
histfit	Histogram with superimposed normal density
hygecdf	Hypergeometric cumulative distribution function
hygeinv	Inverse of hypergeometric cumulative distribution function
hygepdf	Hypergeometric probability density function
hygernd	Random numbers from hypergeometric distribution
kurtosis	Sample kurtosis
logncdf	Lognormal cumulative distribution function
logninv	Inverse of lognormal cumulative distribution function
lognpdf	Lognormal probability density function
lognrnd	Random numbers from lognormal distribution
mad	Mean or median absolute deviation of sample
moment	Central moment of all orders
nanmax	Maximum, ignoring NaNs
nanmean	Mean, ignoring NaNs
nanmedian	Median, ignoring NaNs
nanmin	Minimum, ignoring NaNs
nanstd	Standard deviation, ignoring NaNs
nansum	Sum, ignoring NaNs
normcdf	Normal cumulative distribution function

Normfit	Maximum likelihood estimate of data to a normal distribution.
norminv	Inverse of normal cumulative distribution function
normpdf	Normal probability density function
normrnd	Random numbers from normal distribution
poisscdf	Poisson cumulative distribution function
poissinv	Inverse of Poisson cumulative distribution function
poisspdf	Poisson probability density function
poissrnd	Random numbers from Poisson distribution
polyconf	Polynomial confidence intervals
prctile	Percentiles of sample
princomp	Principal component analysis
qqplot	Quantile-quantile plot of two samples
quantile	Quantiles of sample
randg	Gamma distributed random numbers and arrays (unit scale)
skewness	Sample skewness
tabulate	Frequency table
tcdf	Student's t cumulative distribution function
tinvs	Inverse of Student's t cumulative distribution function
tpdf	Student's t probability density function
trimmean	Mean of sample, excluding extreme values
trnd	Random numbers from Student's t distribution
unidrnd	Random numbers from discrete uniform distribution
unifcdf	Continuous uniform cumulative distribution function
unifinv	Inverse of continuous uniform cumulative distribution function
unifpdf	Continuous uniform probability density function
unifrnd	Random numbers from continuous uniform distribution
wblcdf	Weibull cumulative distribution function
wblinv	Inverse of Weibull cumulative distribution function
wblpdf	Weibull probability density function
wblrnd	Random numbers from Weibull distribution
zscore	Standardized z-scores

Symbolic Math Toolbox

lambertw	Lambert's W function
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