

tswge Quick Reference

Plotting

- `plotts.wge` - plot a realization
- `plotts.sample.wge` - 4 sample plots (realization, parzen window, periodogram, spectral density)
- `plotts.parzen.wge` - parzen window (can be truncated)
- `plotts.true.wge` - true ACF and true spectral density

Factor Analysis

- `factor.wge` - factor characteristic equations into 1st and 2nd order components
- `factor.comp.wge` - decompose a sampled signal into factors
- `mult.wge` - multiply together factors (up to 6)
 - Use `$model.coef` to access the coefficients

Simulation

- `gen.sigplusnoise.wge` - linear or sinusiod signal with normal noise
 - Linear model: `b0`, `b1`
 - Sinusiod: `coef`, `freq`, `psi` (2 component vectors)
 - AR noise: `phi`
- `gen.arma.wge` - arma signals
 - `p`: AR vector
 - `q` MA vector
- `gen.arima.wge` - arima signals
 - `p`: AR vector
 - `q`: MA vector
 - `d`: Difference order
- `gen.aruma.wge` - aruma signals

- `p`: AR vector
- `q`: MA vector
- `d`: Difference order
- `s`: Seasonality
- `lambda`: Other non-stationary components

Filtering

- `artrans.wge` - apply an AR-type transformation to a series
 - First order difference: `artrans.wge(x, phi.tr = 1)`
 - Subtract monthly difference: `artrans.wge(x, phi.tr = c(rep(0,11),1))`
- `butterworth.wge` - apply a butterworth filter a time series
- `stats::filter` - general function for filtering e.g. 5-pt MA Filter: `stats::filter(X.t, rep(1,5)/5)`