# Dataset S3

# R code to generate surrogate simulations in order to assess suitability of

# spectral analysis procedures provided in Astrochron

# Load the library Astrochron

library(astrochron)

# Conduct simulations using AR1 surrogates and the MTM-AR1 approach

testBackground(npts=1240, dt=0.05, noiseType=”ar1”, coeff=0.3082017,

method=“mtmAR1”, detrend=T, tbw=2, iter=2000)

# Conduct simulations using AR1 surrogates and the MTM-ML96 approach

testBackground(npts=1240, dt=0.05, noiseType=”ar1”, coeff=0.3082017,

method=”mtmML96”,detrend=T, tbw=2, iter=2000)

# Conduct simulations using AR1 surrogates and the LOWSPEC approach

testBackground(npts=1240, dt=0.05, noiseType=”ar1”, coeff=0.3082017,

method=”lowspec”,detrend=T, tbw=2, iter=2000)

# Conduct simulations using power law surrogates, and the MTM-PL approach

testBackground(npts=1240, dt=0.05, noiseType=”pwrLaw”, coeff= 0.3938128,   
 method=”mtmPL”,detrend=T, tbw=2, iter=2000)

# Conduct simulations using power law surrogates, and the Periodogram-PL approach

testBackground(npts=1240, dt=0.05, noiseType=”pwrLaw”, coeff= 0.3938128,   
 method=”periodogramPL”, detrend=T,iter=2000)

# Conduct simulations using AR1 surrogates, and the Periodogram-AR1 approach

testBackground(npts=1240, dt=0.05, noiseType=”ar1”, coeff= 0.3082017,   
 method=”periodogramAR1”, detrend=T,iter=2000)