

%for the i-th qValue and j-th scale:	Example for i=1, j=1:
window=2^scales(j); q=qValues(i);	window=2^1; q=-3;
%break the time series into windows & sum TimeseriesReshaped=reshape(Timeseries,[],window); TimeseriesSummed=sum(Timeseries);	[1 2 1 5; 3 2 9 1]' 1+2+1+5+3+2+9+1 = 24
%calculate p ps=sum(TimeseriesReshaped); p=ps./TimeseriesSummed;	[1+2+1+5=9 3+2+9+1=15] [9/24=0.375 15/24=0.625]
Nor=sum(p. q); mu=(p. q)/Nor;	0.375^-3+0.625^-3 = 23.059 [0.375^-3/23.059 = 0.8224 0.625^-3/23.059 = 0.1776]
Md(i,j)=log10(Nor); Ma(i,j)=sum(mu.*log10(p)); Mf(i,j)=sum(mu.*log10(mu));	log10(23.059) = 1.3628; -0.3503 + -0.0363 = -0.3866 -0.0698 + -0.1333 = -0.2032

Output: α, f

 $D = \frac{d}{1 - qValues}$

Example:

 $\alpha = [1.49 \ 1.45 \ 1.35 \ 1.14 \ 0.86 \ 0.65 \ 0.56]$ $f = [0.66 \ 0.77 \ 0.91 \ 1 \ 0.86 \ 0.56 \ 0.33]$ $D = [1.28 \ 1.22 \ 1.13 \ 1 \ 0.86 \ 0.74 \ 0.67]$



