Subject: Bazaar/STEM4U: Added Butterworth filter
Posted by koldo on Thu, 17 Dec 2020 07:13:18 GMT
View Forum Message <> Reply to Message

The Butterworth IIR filter is a type of signal processing filter designed to have a frequency response as flat as possible in the passband. It is also referred to as a maximally flat magnitude filter. It was first described in 1930 by the British engineer and physicist Stephen Butterworth in his paper entitled "On the Theory of Filter Amplifiers"

These filter functions are templated and can be used with different vector types like U++ Vector<>, Eigen VectorXd and std::vector<>.

Its behaviour is equivalent to Matlab functions filter(), filtfilt() and butter().

Reference is here.

Subject: Re: Bazaar/STEM4U: Added Butterworth filter
Posted by koldo on Thu, 24 Dec 2020 12:47:50 GMT
View Forum Message <> Reply to Message

Added ButterLowPass(), ButterHighPass() and ButterBandStop(), similar to Matlab butter() functions.

Subject: Re: Bazaar/STEM4U: Added Butterworth filter
Posted by mirek on Sat, 20 Feb 2021 16:32:35 GMT
View Forum Message <> Reply to Message

Latest bazaar version does not compile:

C:\upp\UppHub\STEM4U\STEM4U/CrossCorrelation.h:27:3: error: use of undeclared identifier 'PostPad'
        PostPad(x, M, 0.);
        ^
C:\upp\UppHub\STEM4U\STEM4U/CrossCorrelation.h:44:3: error: use of undeclared identifier 'PrePad'
        PrePad(x, x.size() + maxlag, 0.);
        ^
C:\upp\UppHub\STEM4U\STEM4U/CrossCorrelation.h:45:3: error: use of undeclared identifier 'PostPad'
        PostPad(x, M, 0.);
        ^
C:\upp\UppHub\STEM4U\STEM4U/CrossCorrelation.h:50:3: error: use of undeclared identifier 'PostPad'
        PostPad(y, M, 0.);

```
       ^
```
C:\upp\UppHub\STEM4U\STEM4U/CrossCorrelation.h:21:2: error: no matching function for call to 'Copy'
```
    Copy(_x, x);
```