ASN FilterScript

HIGHLIGHTS

- ▶ Live math scripting IDE
- ▶ Symbolic math scripting language
- ▶ Over 40 scientific commands
- ▶ Real-time chart updates
- ▶ Experiment with variables in real-time
- ▶ Detailed examples provided

DESCRIPTION

ASN FilterScript allows designers to implement IIR/FIR symbolic mathematical expressions directly. These may be definitions taken directly from textbooks, technical standards or even reference designs. The scripting language itself supports over 40 scientific commands and takes the best aspects of Matlab, Scilab, R and ANSI C. The 'live IDE' offers designers the unique and powerful ability to modify parameters on-the-fly with the so-called *interface variables*, allowing for real-time updates of the resulting frequency response.

TYPICAL SYMBOLIC MATH MAPPING

$$H(z) = \frac{1 - 2\cos w_c z^{-1} + z^{-2}}{1 - 2r\cos w_c z^{-1} + r^2 z^{-2}}$$
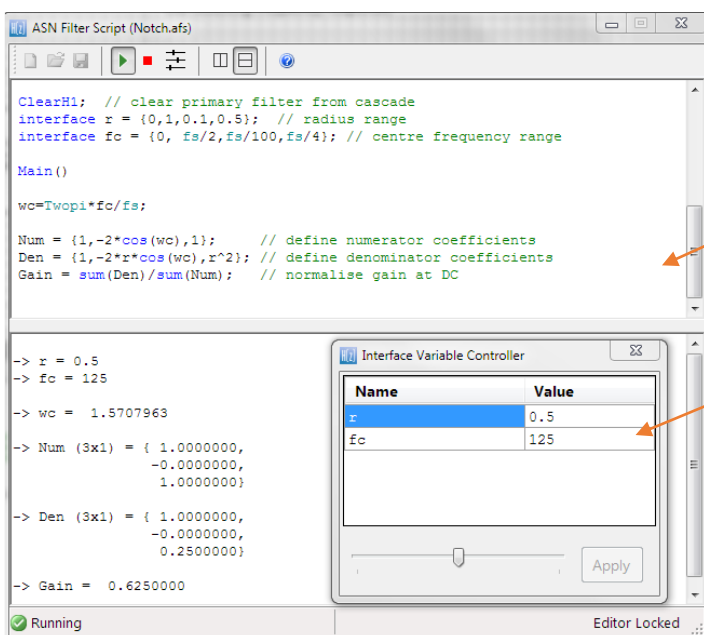
```
wc=Twopi*fc/fs;              // Hz to radians

Num = {1,-2*cos(wc),1};      // numerator coefficients
Den = {1,-2*r*cos(wc),r^2};  // denominator coefficients
Gain = sum(Den)/sum(Num);    // normalise gain at DC
```

2nd order IIR notch   FilterScript code

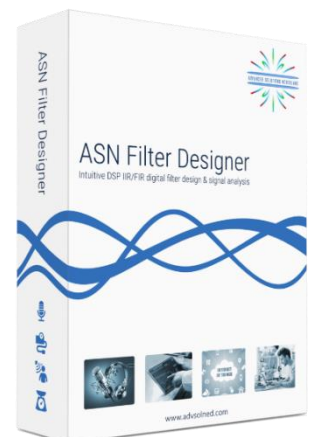## ASN FILTERSCRIPT IDE

Code editor

Interface variable controller

APPLICATIONS

- ▶ Industrial sensors
- ▶ IoT smart sensors
- ▶ Biomedical (ECG/EEG/EMG)
- ▶ Academia (classroom)
- ▶ Audio effects

ASN Filter Designer

Download a free demo: www.advsolned.com/asn_filter_designer.html