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Topic: **AWGN channel**

Replies: 1 Last Post: Dec 3, 2008 11:06 AM

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[Idin Motedayen-Aval](#)

Re: AWGN channel

Posted: Dec 3, 2008 11:06 AM

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Posts: 132
Registered: 9/7/07

Jiri Belohlavek wrote:
> I composed an ASK modulator and a demodulator in Simulink. After the simulation are results from oscilloscope right. After pasting AWGN channel into the scheme Simulink reports error:
> „Error reported by S-function 'scomawgnchan2' in 'ask3/AWGN Channel/Dynamic AWGN': In Signal to noise ratio mode, the block input and output must have discrete sample times.“
>
> I don’t know how modify scheme. I need set parameter Eb/No in AWGN block for my results.
>
> scheme:
> <http://img374.imageshack.us/img374/9301/schemaso2.jpg>
> error:
> <http://img374.imageshack.us/img374/1409/errorie5.jpg>

Jiri,
The AWGN block wants to work with discrete-time sampled signals. You have a continuous-time signal (at the output of it, I believe). That's what it's complaining about.
I recommend turning on sample time color (Format Menu -> Port/Signal Displays -> Sample Time Colors... or Format -> Sample Time Display -> Color depending on your version). See where your signal is changing from discrete to continuous (do this in the version without the AWGN block). You need to take care of this transition. The AWGN block is not going to make that transition.

I don't know if you absolutely have to use the continuous time filter and "transport delay" blocks. Changing those to a digital filter and a discrete delay (perhaps a "fractional delay" block) should eliminate this problem entirely because everything will then be a discrete-time signal.

HTH,
Idin

--
Idin Motedayen-Aval
The MathWorks, Inc.
zq=[4 2 5 -15 -1 -3 24 -57 45 -12 19 -12 15 -8 3 -7 8 -69 53 12 -2];
char(filter(1,[1,-1],[105 zq])), clear zq

Date	Subject	Author
12/3/08	 AWGN channel	Jiri Belohlavek
12/3/08	 Re: AWGN channel	Idin Motedayen-Aval

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