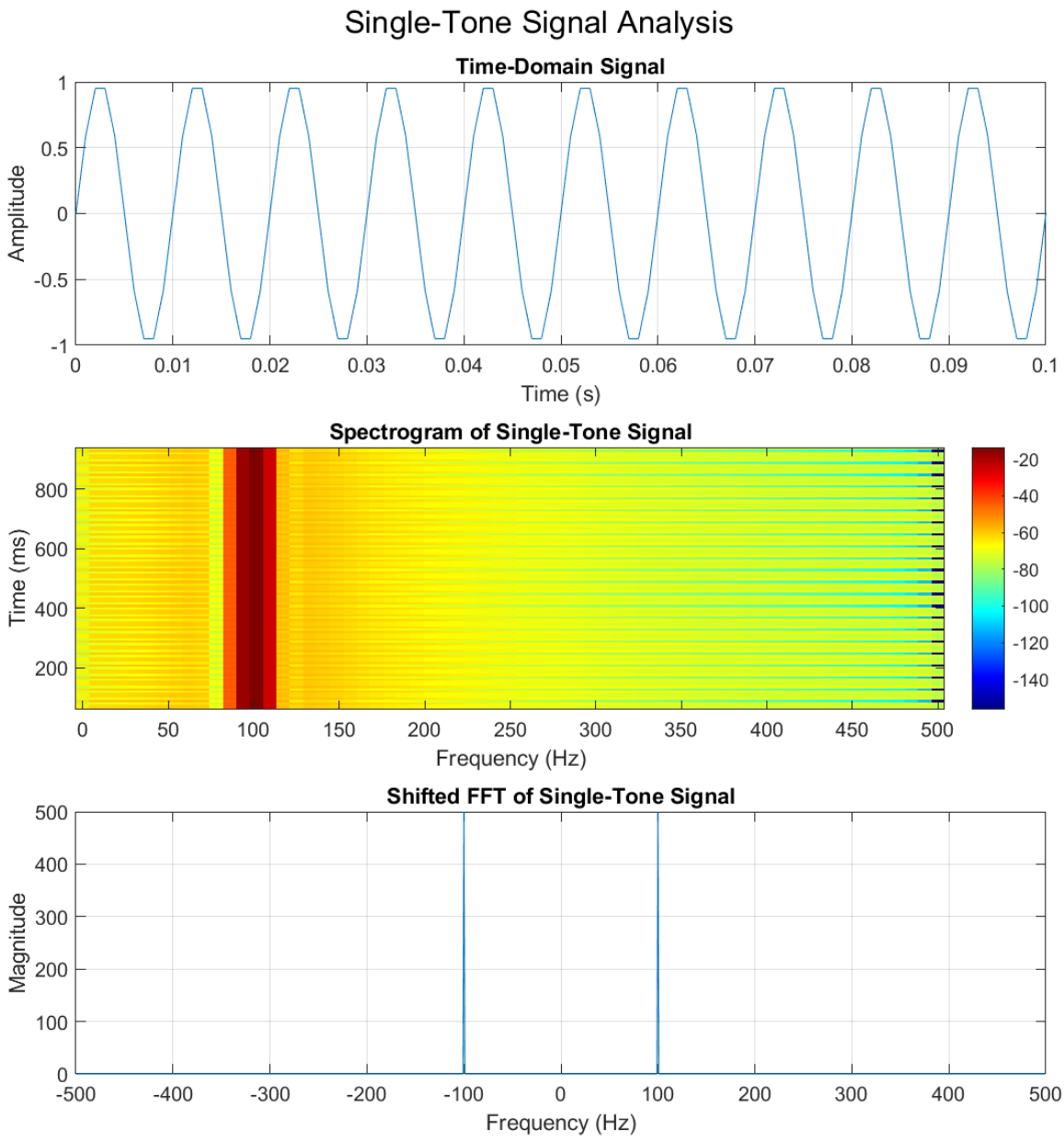
Waveform

https://www.mathworks.com/help/signal/waveform-generation.html

sin: Sine of argument in radians



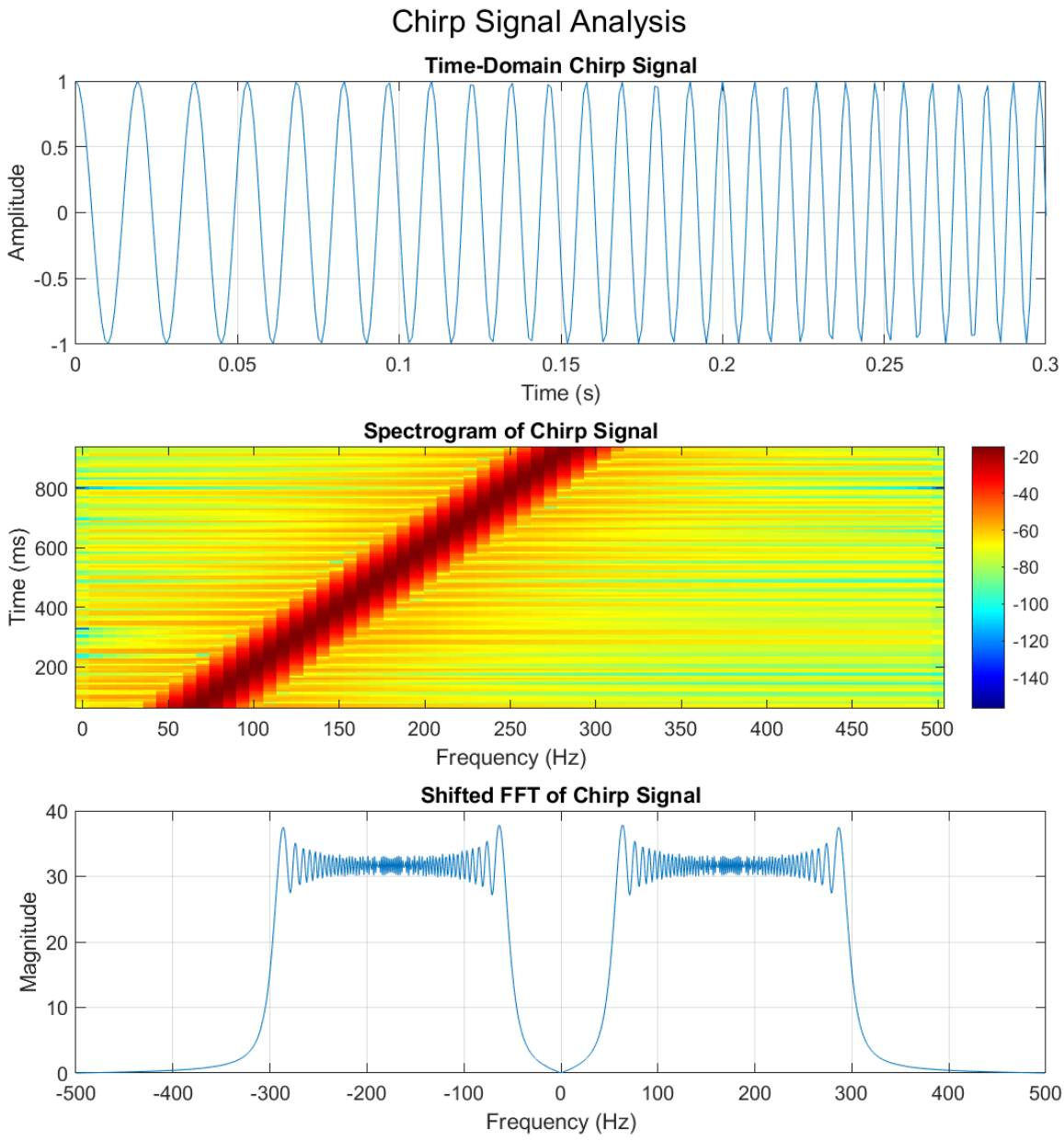
The image above shows a single-tone sine wave signal analysis with three subplots:

1. Time-domain signal showing the sine wave
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Frequency: 100 Hz
- Amplitude: 1

chirp: Swept-frequency cosine



The image above shows a chirp signal analysis with three subplots:

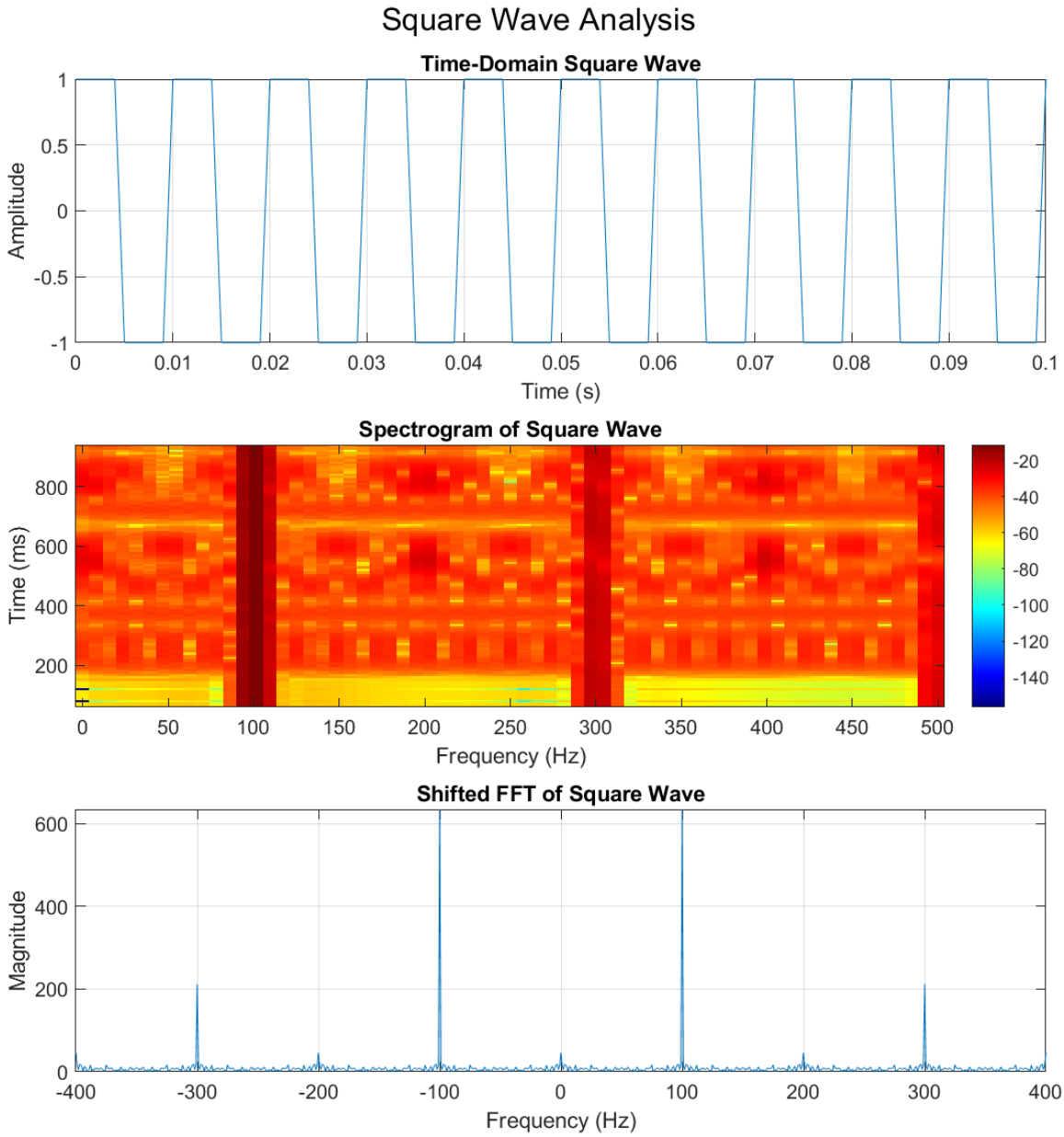
1. Time-domain signal showing the linear frequency sweep
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz

- Duration: 1 second
- Starting frequency: 50 Hz
- Ending frequency: 300 Hz

square: Square wave



The image above shows a square wave signal analysis with three subplots:

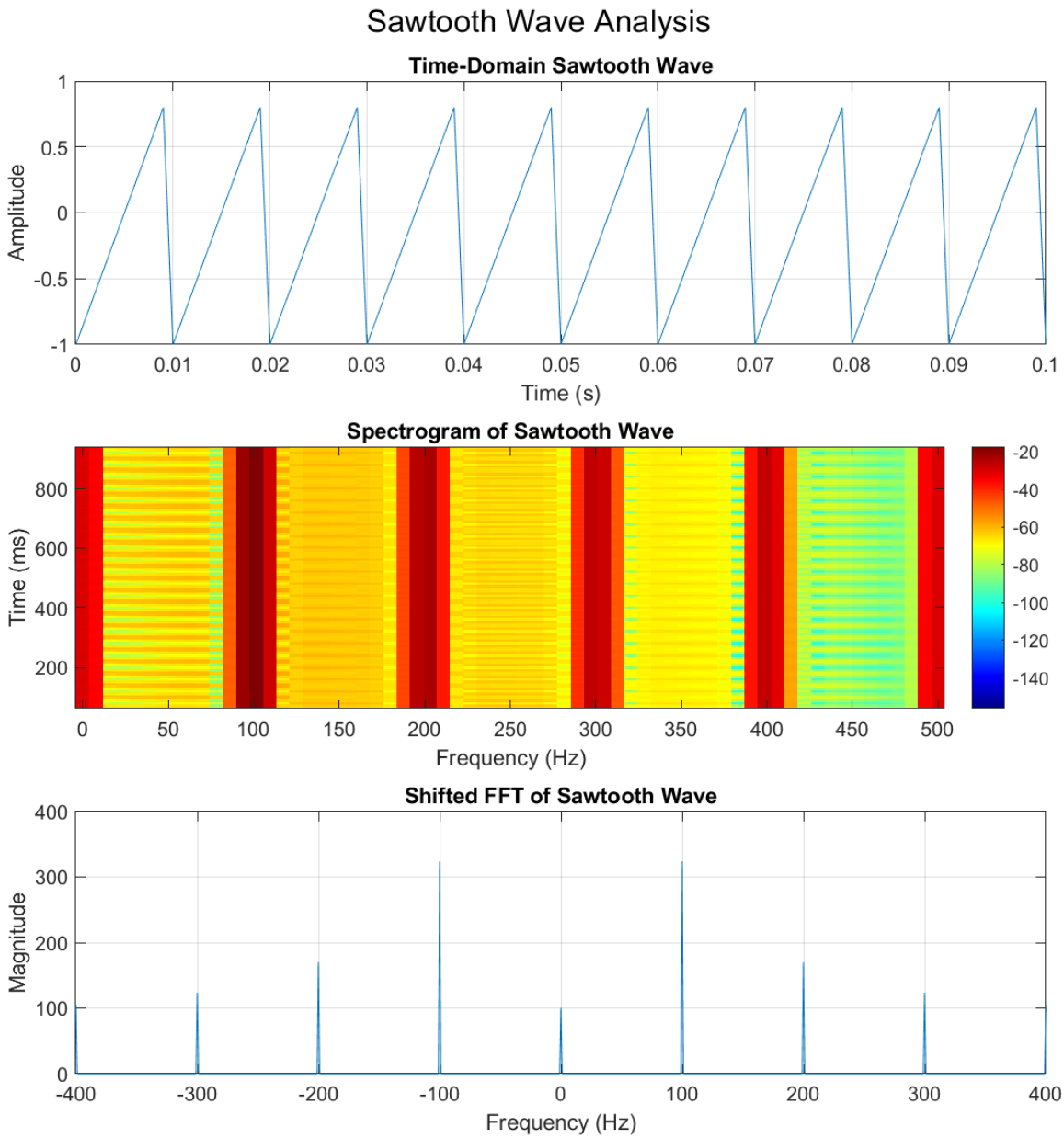
1. Time-domain signal showing the square wave
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second

- Fundamental frequency: 100 Hz

sawtooth: Sawtooth or triangle wave



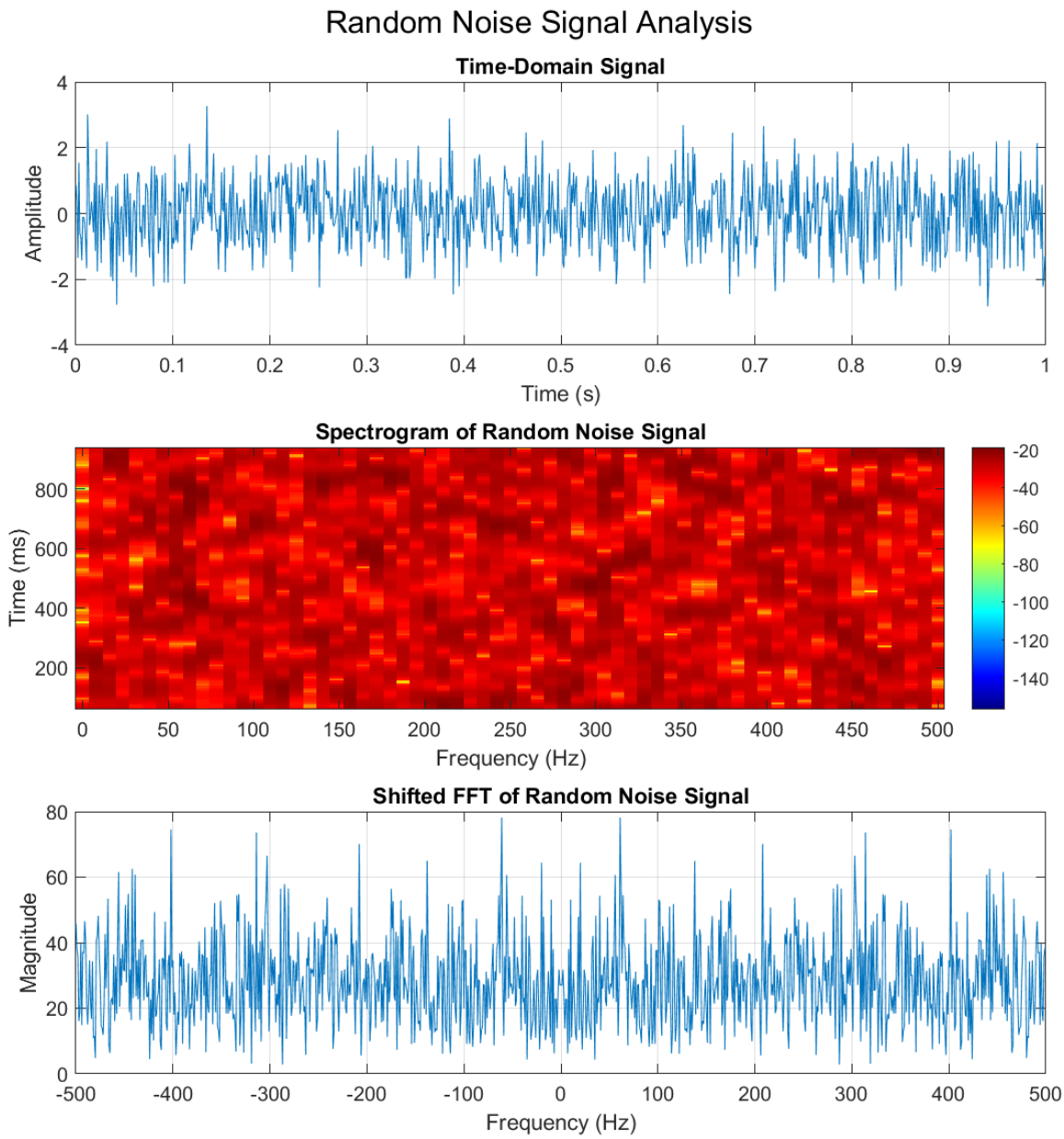
The image above shows a sawtooth wave signal analysis with three subplots:

1. Time-domain signal showing the sawtooth wave
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Fundamental frequency: 100 Hz

randn: Normally distributed random numbers



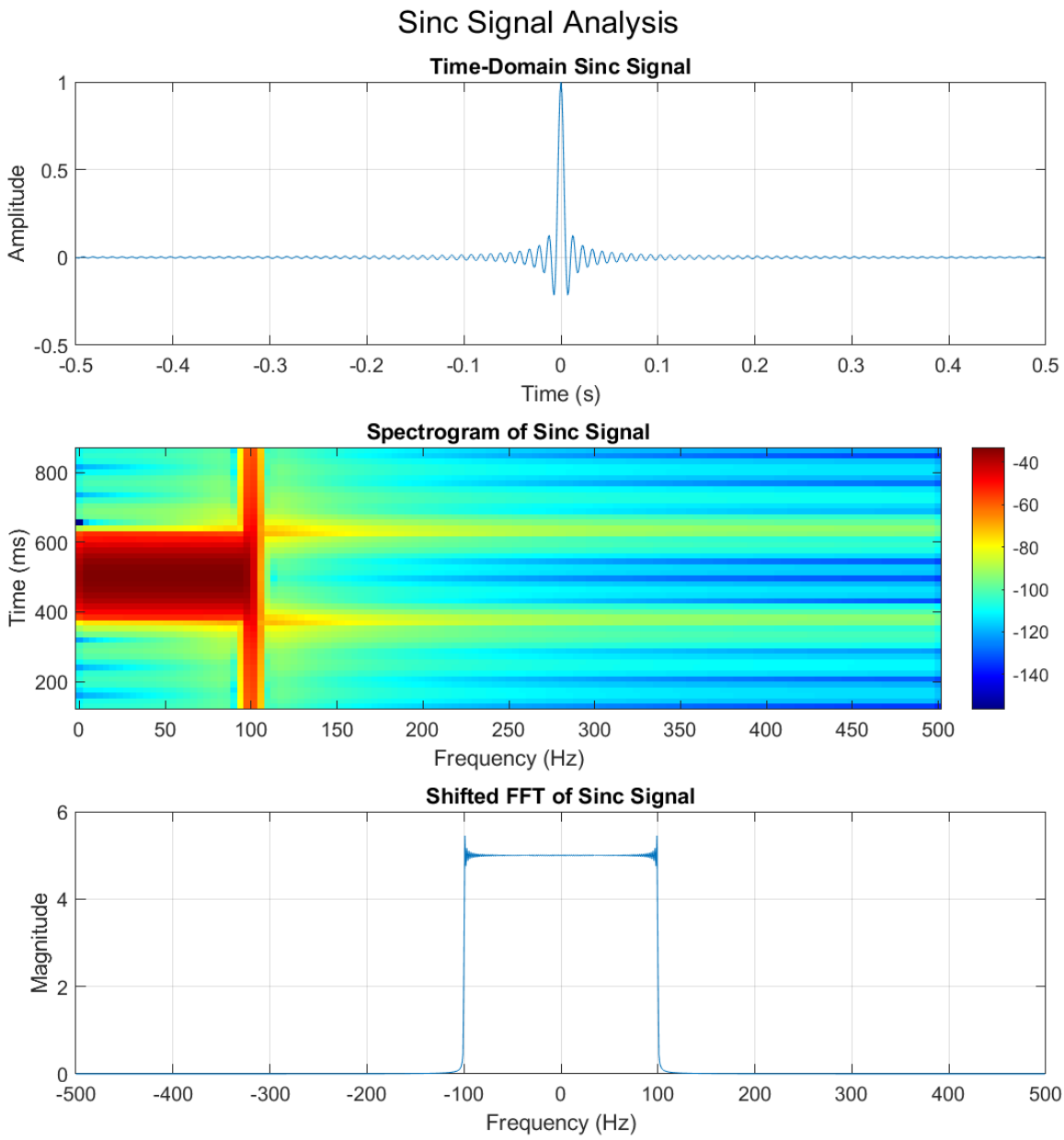
The image above shows a random noise signal analysis with three subplots:

1. Time-domain signal showing the random noise
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Signal type: Gaussian white noise

sinc: Sinc function



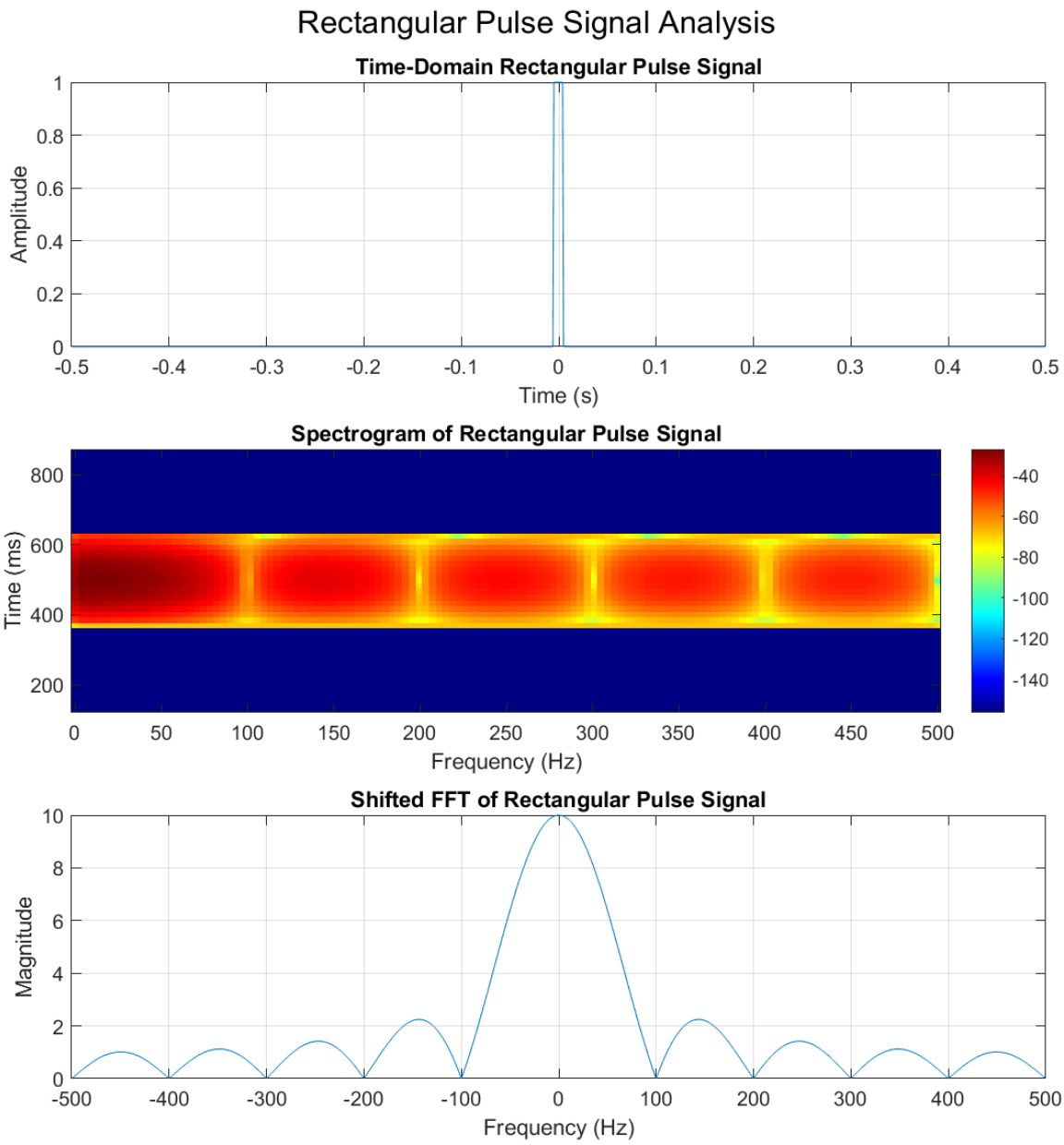
The image above shows a sinc signal analysis with three subplots:

1. Time-domain signal showing the sinc function
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz

rectpuls: Sampled aperiodic rectangle



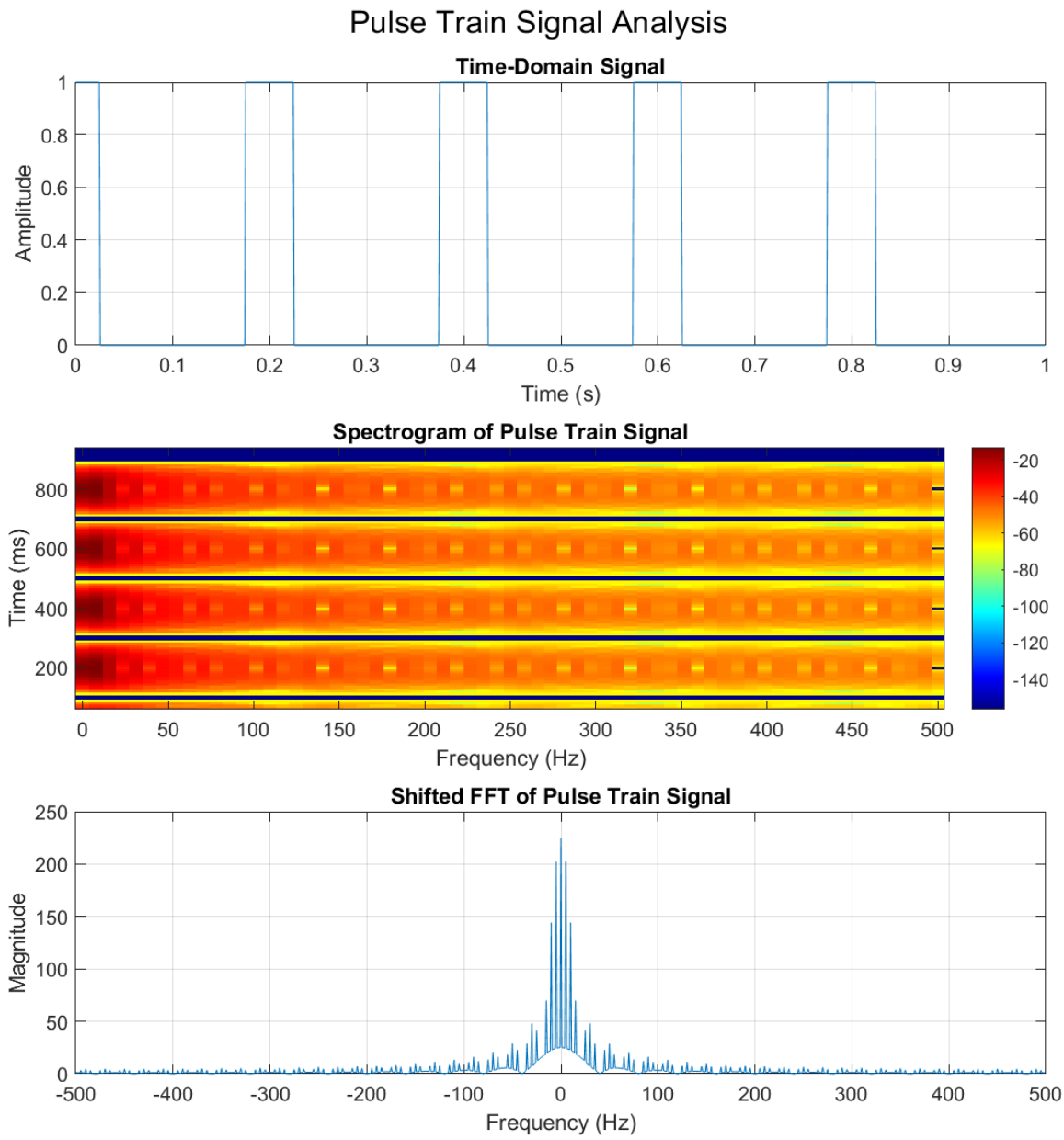
The image above shows a rectangular pulse signal analysis with three subplots:

1. Time-domain signal showing the rectangular pulse
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz

pulstran: Pulse train



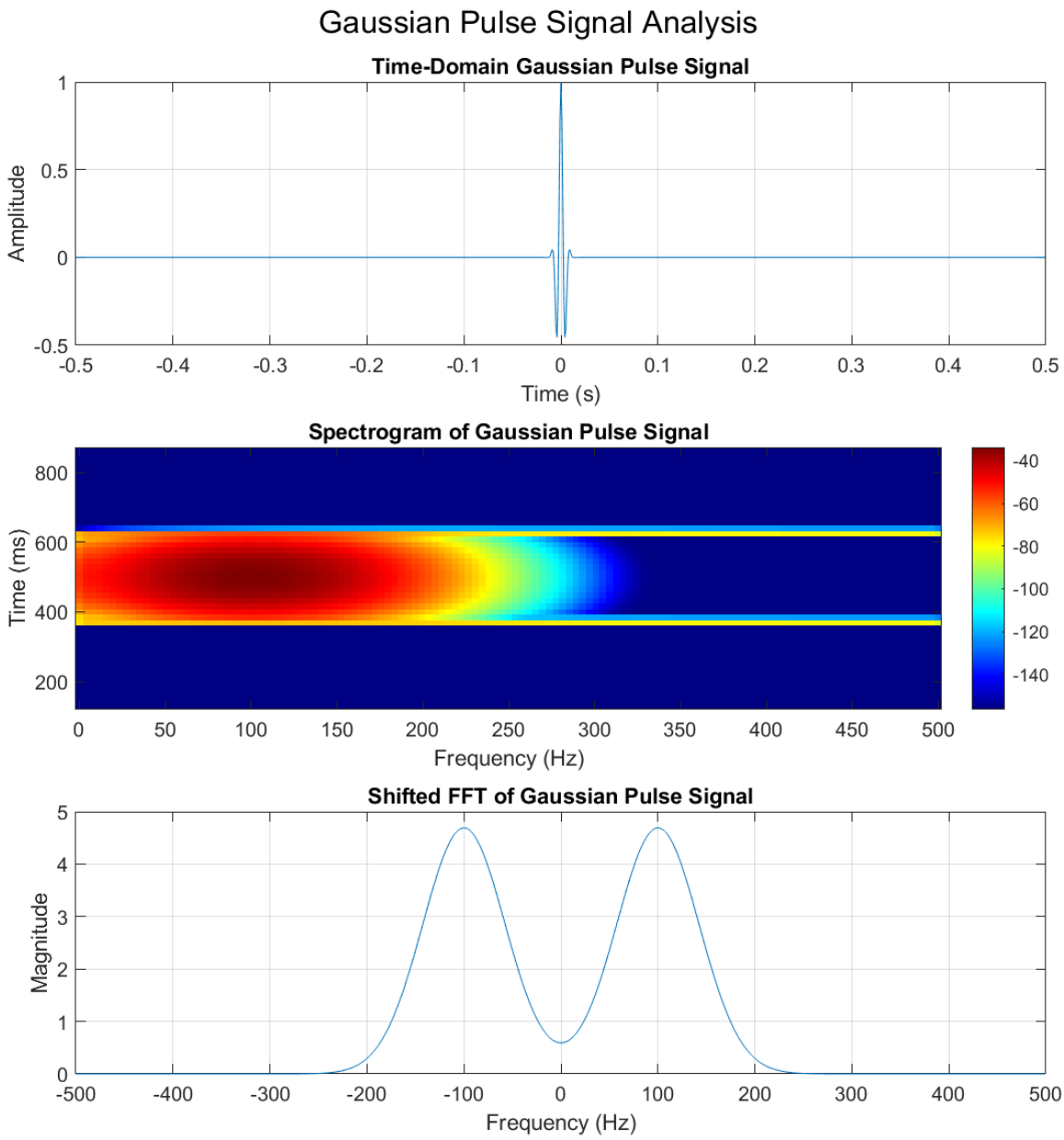
The image above shows a pulse train signal analysis with three subplots:

1. Time-domain signal showing the pulse train
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Pulse period: 0.2 seconds (5 Hz)
- Pulse width: 0.05 seconds

gauspuls: Gaussian-modulated sinusoidal RF pulse



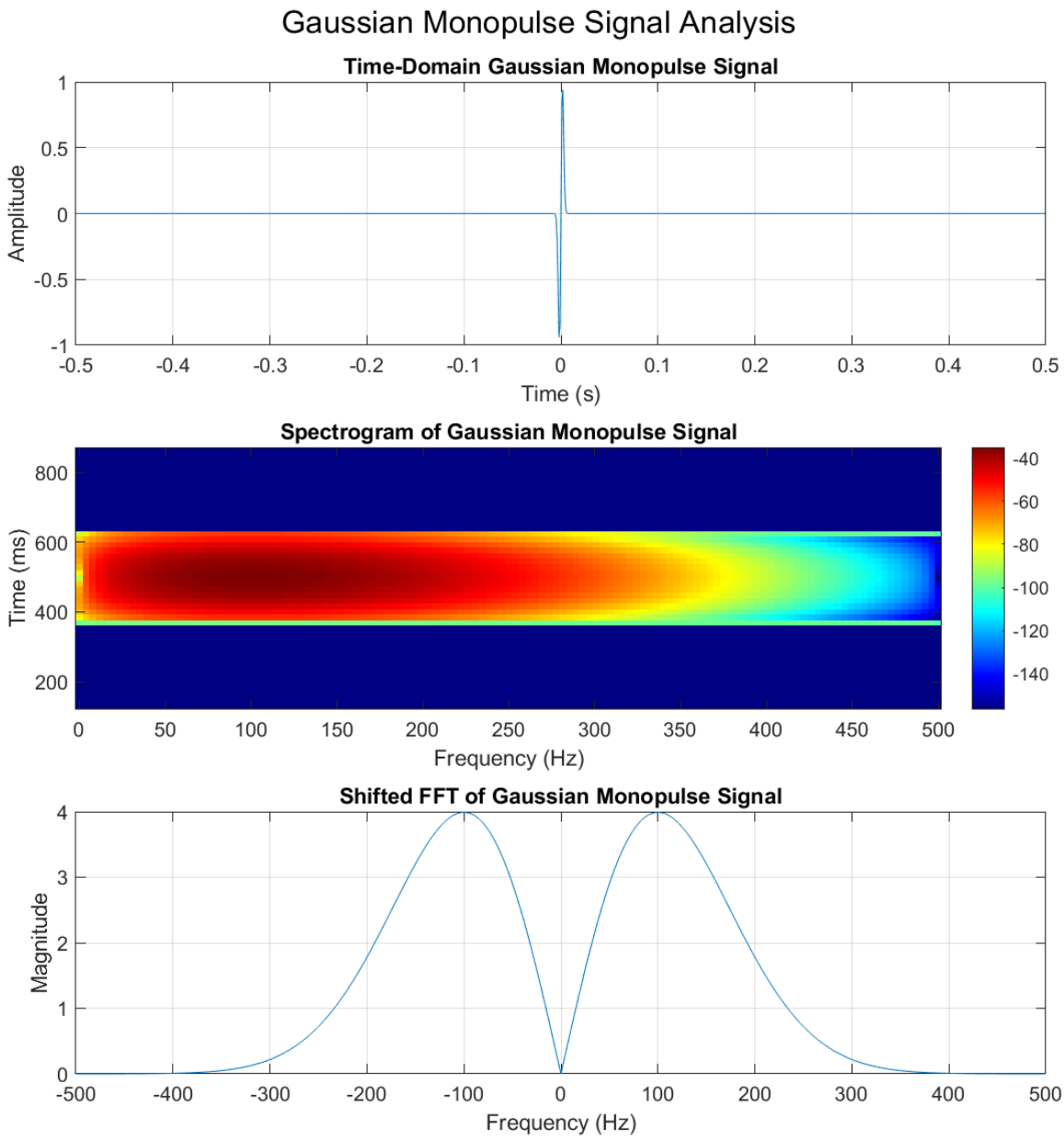
The image above shows a Gaussian pulse signal analysis with three subplots:

1. Time-domain signal showing the Gaussian pulse
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz
- Bandwidth: 1

gmonopuls: Gaussian monopulse



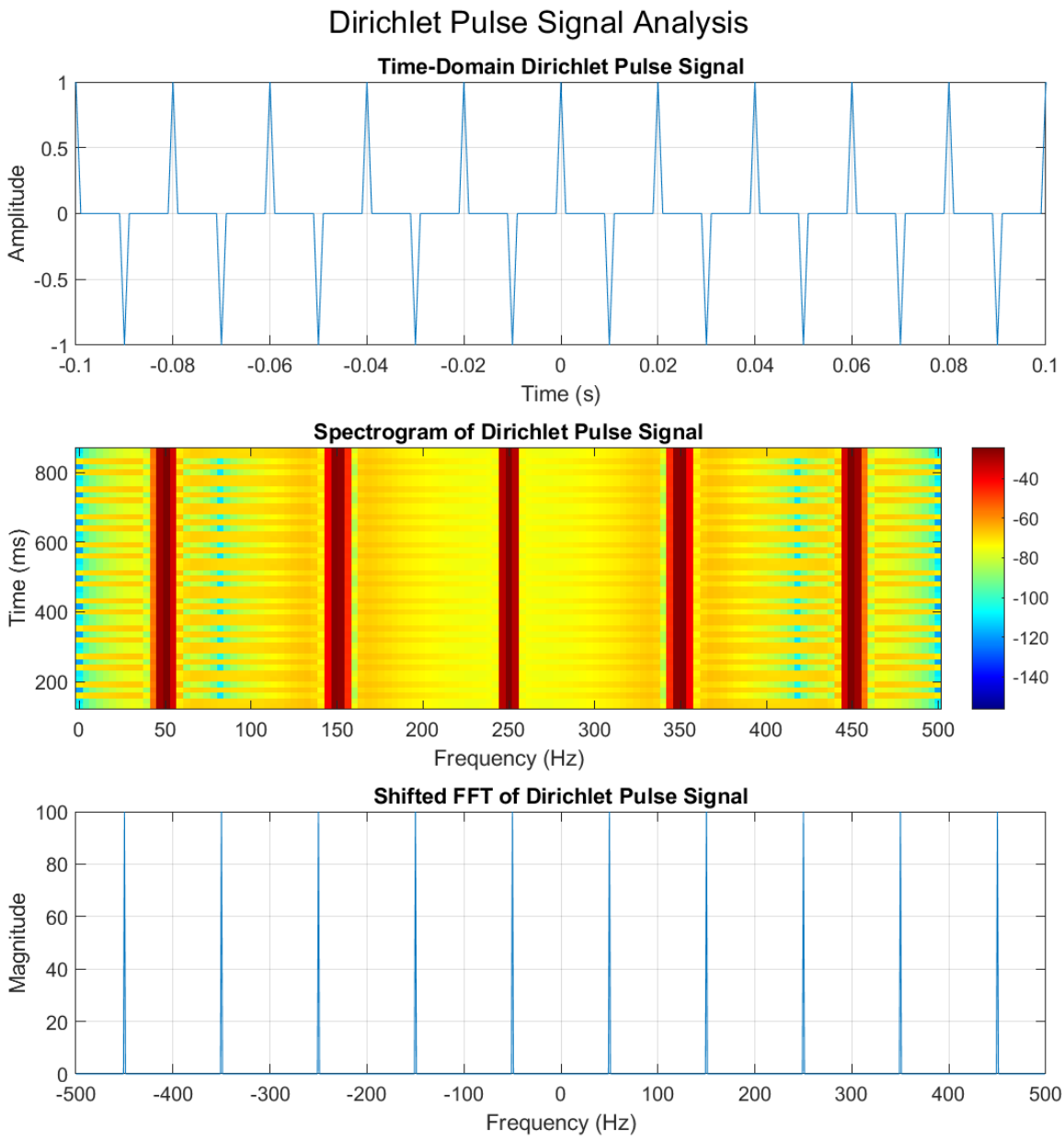
The image above shows a Gaussian monopulse signal analysis with three subplots:

1. Time-domain signal showing the Gaussian monopulse
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz

diric: Dirichlet or periodic sinc function



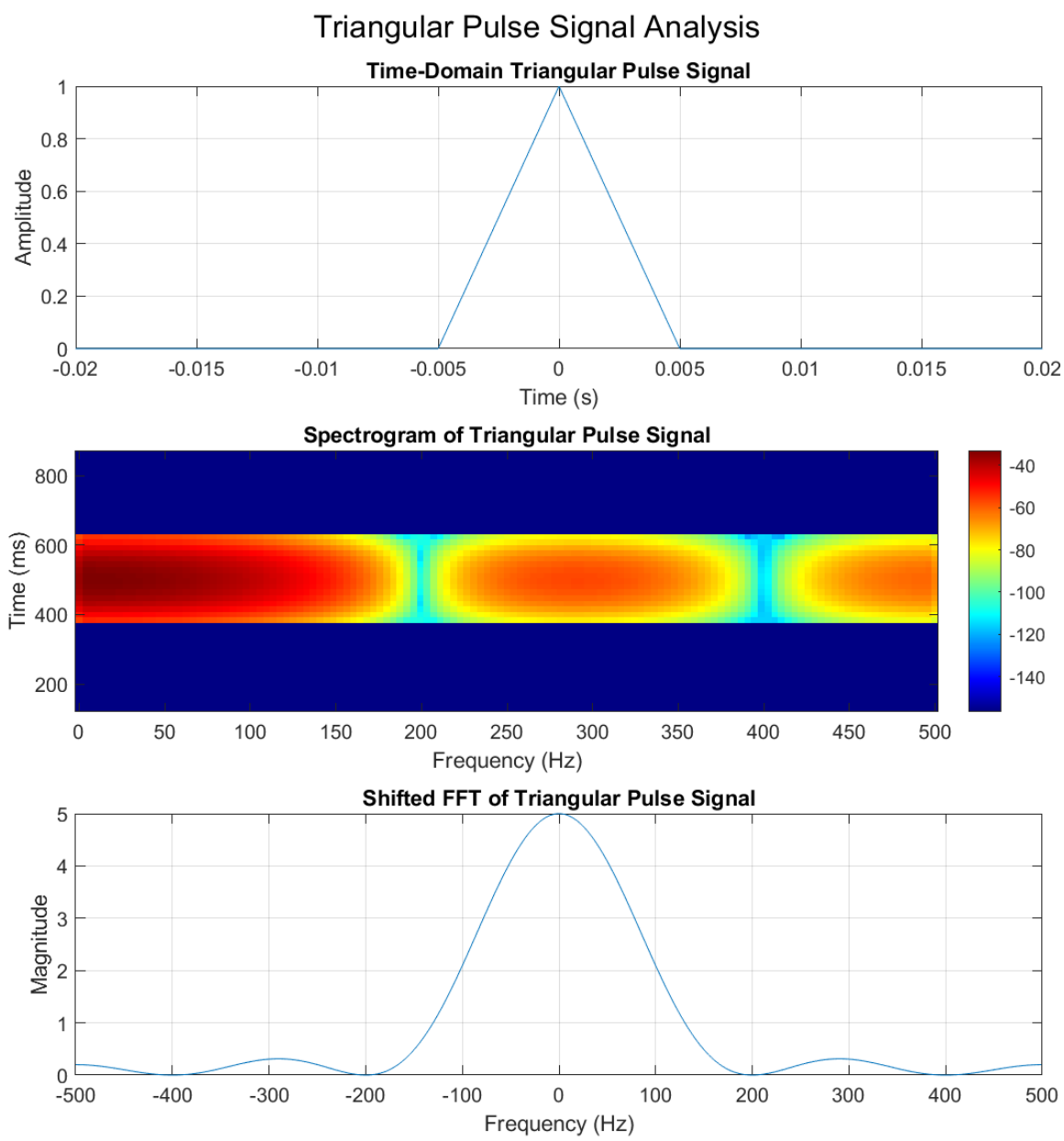
The image above shows a Dirichlet pulse signal analysis with three subplots:

1. Time-domain signal showing the Dirichlet pulse
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz
- Number of samples in period: 10

tripuls: Sampled aperiodic triangle



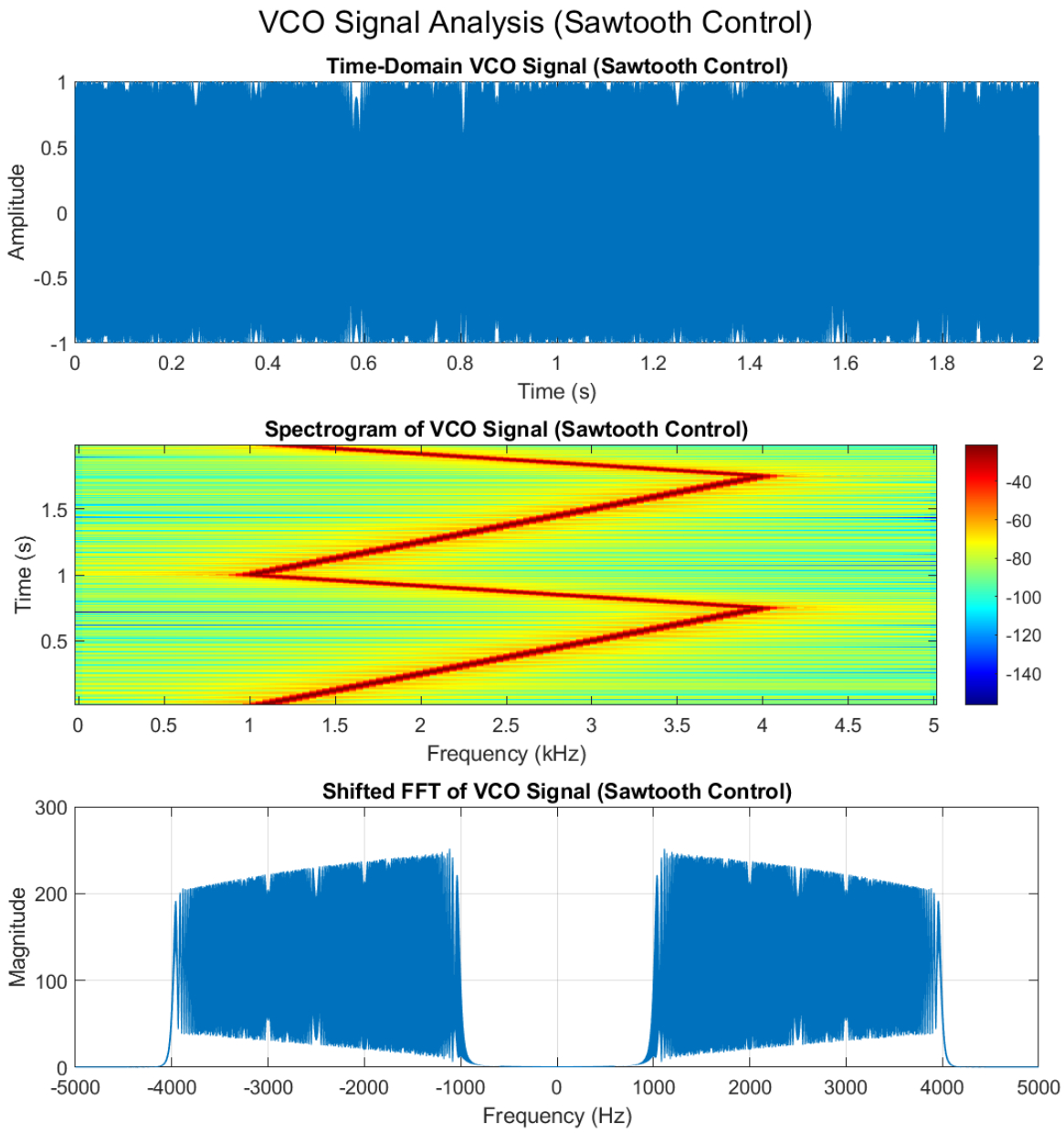
The image above shows a triangular pulse signal analysis with three subplots:

1. Time-domain signal showing the triangular pulse
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 1000 Hz
- Duration: 1 second
- Reference frequency: 100 Hz
- Pulse width: 0.01 seconds

vco: Voltage-controlled oscillator



The image above shows a VCO (Voltage-Controlled Oscillator) signal analysis with three subplots:

1. Time-domain signal showing the VCO output with sawtooth control
2. Spectrogram displaying the frequency content over time
3. Shifted FFT showing the frequency spectrum centered at zero

The signal parameters are:

- Sampling frequency: 10000 Hz
- Duration: 2 seconds
- Frequency range: 0.1 to 0.4 times sampling frequency
- Control signal: Sawtooth wave