Generating Low Frequency Noise

Creating Low Frequency Noise for 1D Functions

```matlab
% CREATE HIGH FREQUENCY NOISE
N = 1000;
n = [0:N-1];
f = rand(1,N) - 0.5;

% CALCULATE SPECTRUM
F = fft(f);

% FILTER SPECTRUM
n1 = round(0.02*N);
F(n1:N-n1) = 0;

% RECONSTRUCT LOW FREQUENCY NOISE
f2 = real(ifft(F));
```
Creating Low Frequency Noise for 2D Functions

% CREATE HIGH FREQUENCY NOISE
Nx = 128;
Ny = Nx;
f = rand(Nx,Ny) - 0.5;

% CALCULATE SPECTRUM
F = fft2(f);

% FILTER SPECTRUM
nx = round(0.05*Nx);
ny = round(0.05*Ny);
F(nx:Nx-nx,:) = 0;
F(:,ny:Ny-ny) = 0;

% RECONSTRUCT LOW FREQUENCY NOISE
f2 = real(ifft2(F));