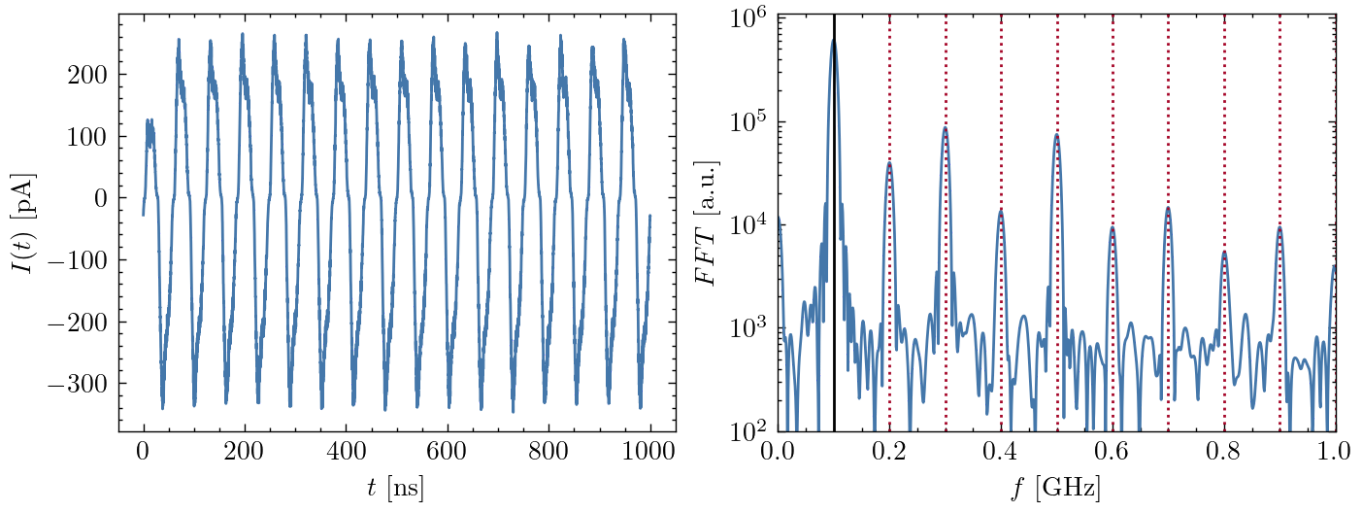
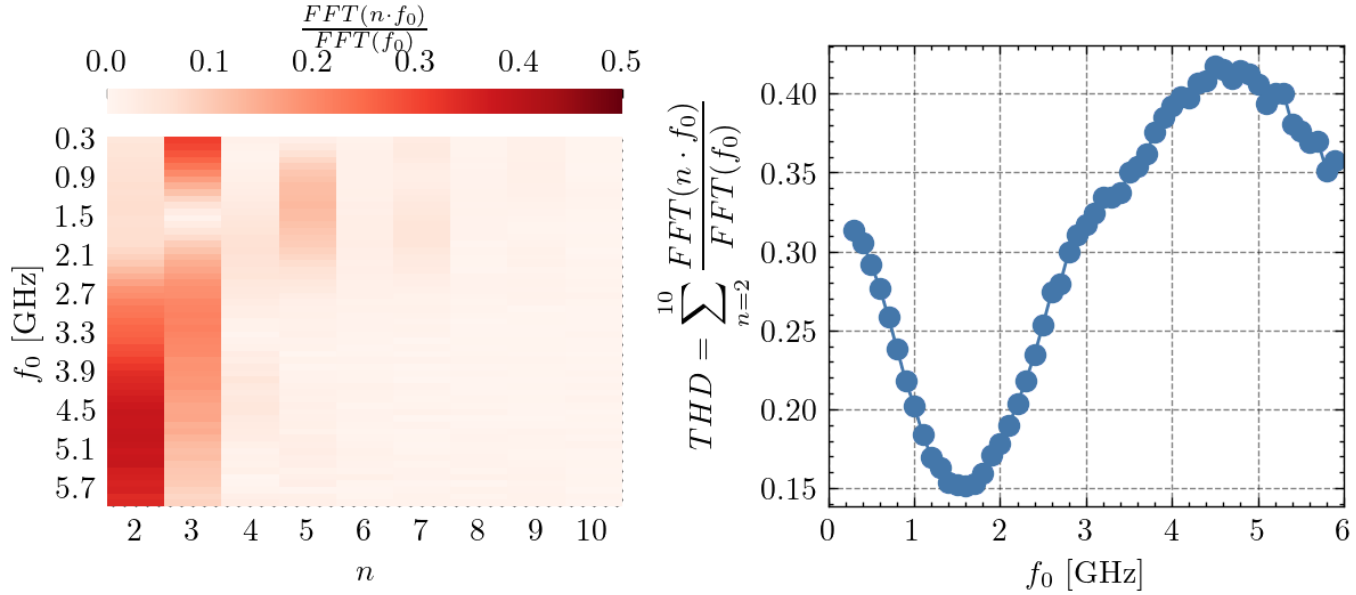
Higher Harmonics

For a uniform N_{NP} network with two electrodes we apply a cosine input voltage signal to one electrode and measure the output electric current. The cosine is defined by its frequency f_0. The output contains higher harmonics



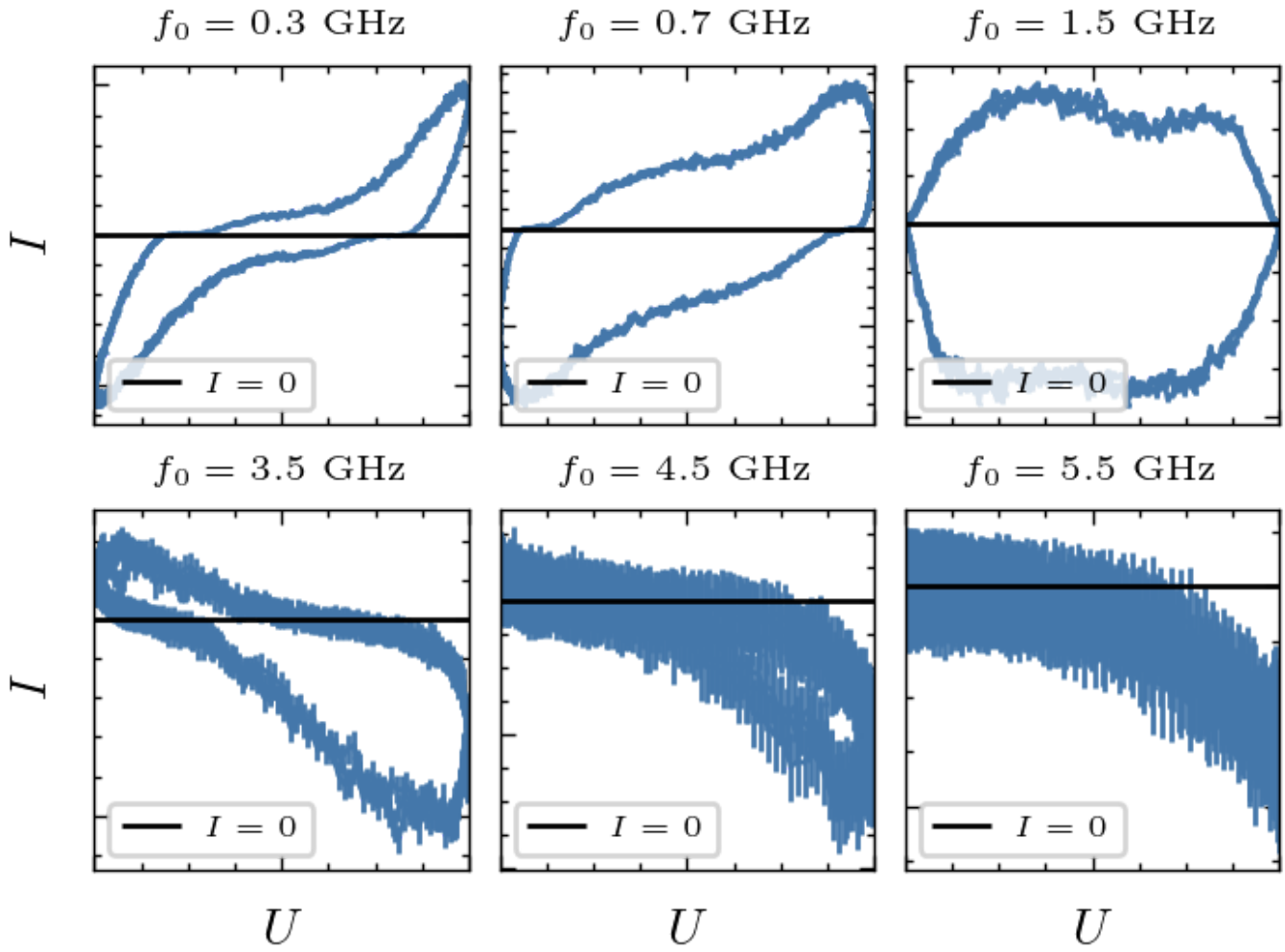
Title.

with generation being frequency dependent:



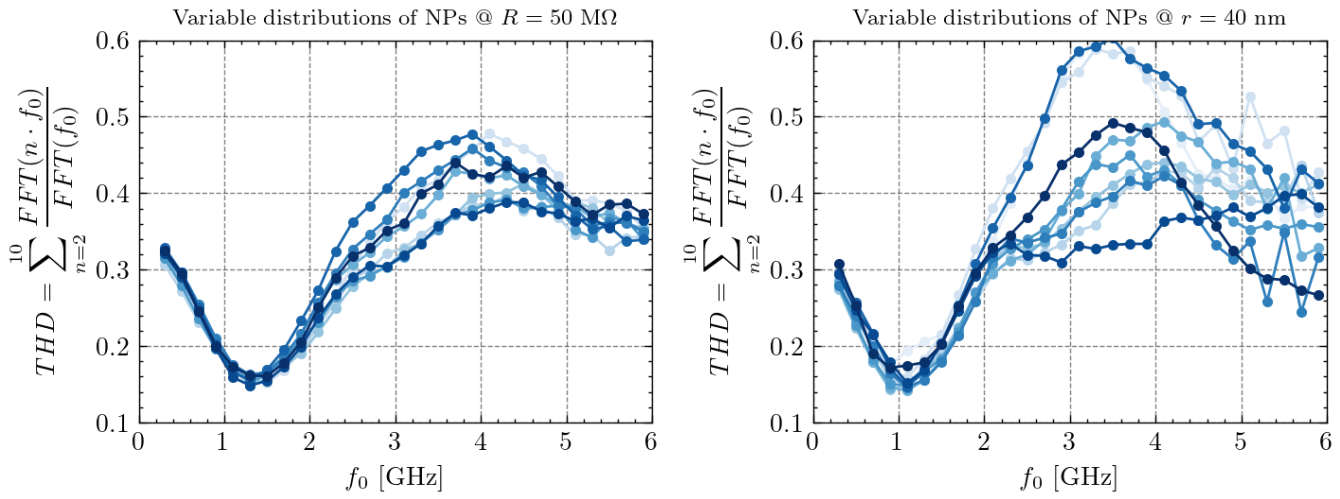
Title.

We find hysteresis diagrams in the input-ouput dependece:



Title.

We are able to manipulate the frequency dependece of higher harmonics using disorder



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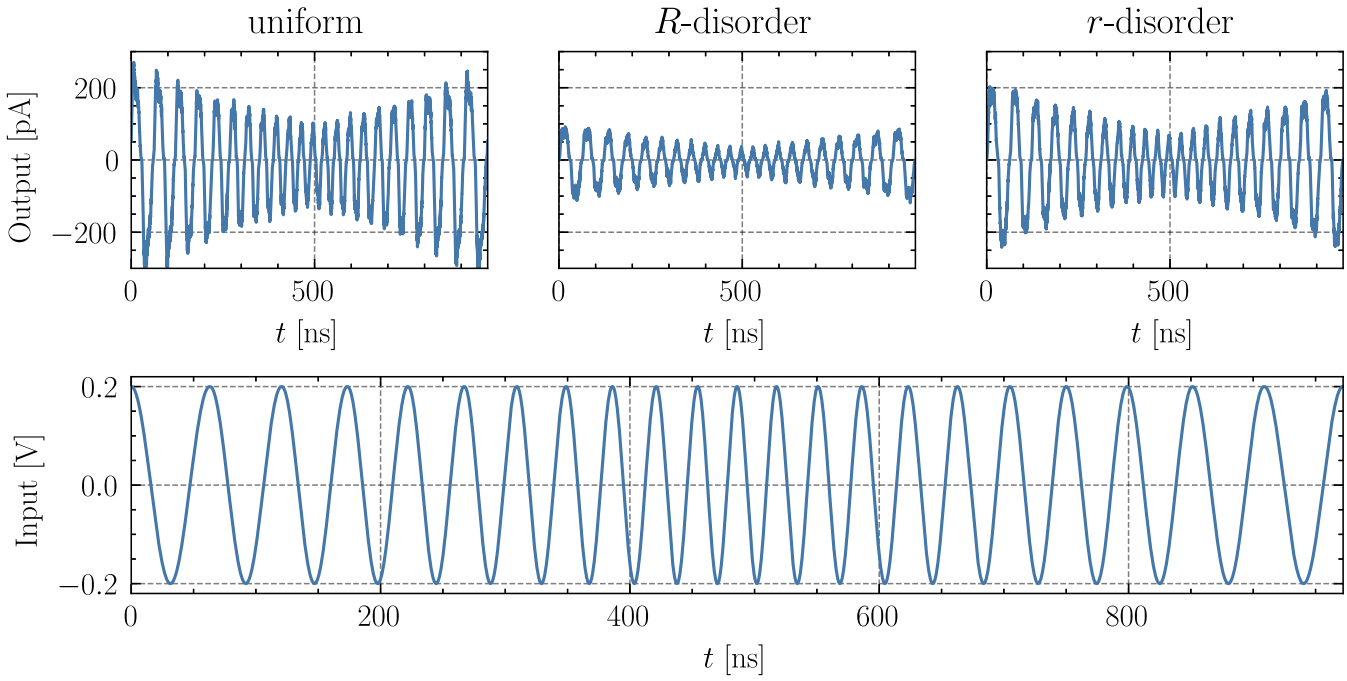
Changing frequencies during the simulation:


uniform
R-disorder
r-disorder
Output [pA]
200
0
−200
0
500
t [ns]
Input [V]
0.2
0.0
−0.2
0
200
400
600
800
t [ns]

Title.