

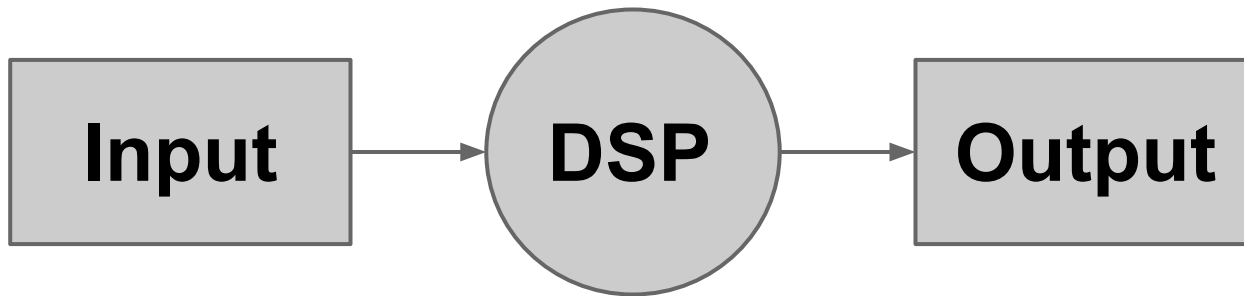
# **Digital Signal Processing and the STM32**

Adam Greig, Jon Sowman & Matt Brejza

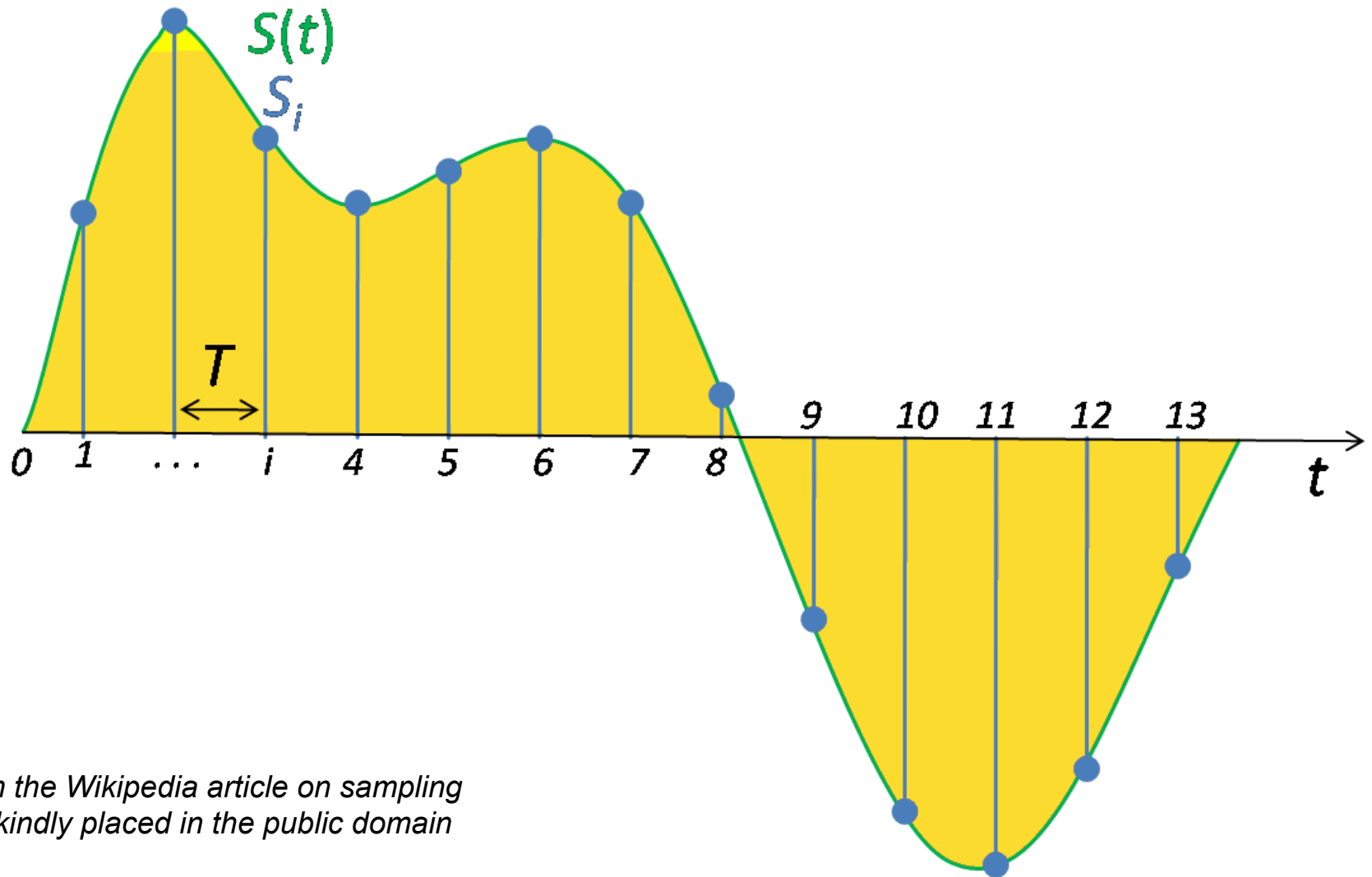
# Schedule

- DSP Fundamentals (by Adam)
  - We'll cover what DSP is, some basic concepts
  - and walk through a simple RTTY decoder
- STM32 Introduction (by Jon)
- DSP on the STM32 (by Matt)

# DSP Basics

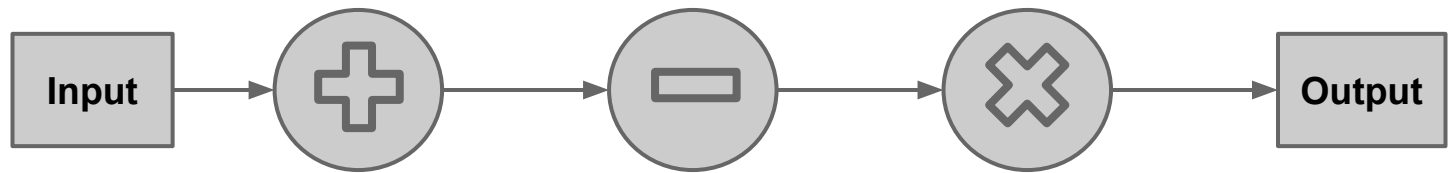


# Sampling

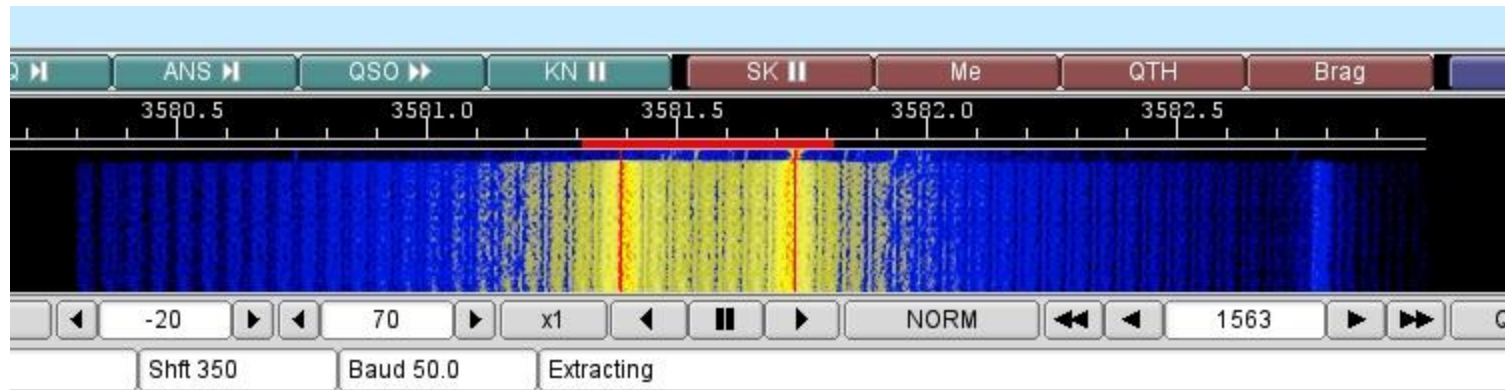


*From the Wikipedia article on sampling and kindly placed in the public domain*

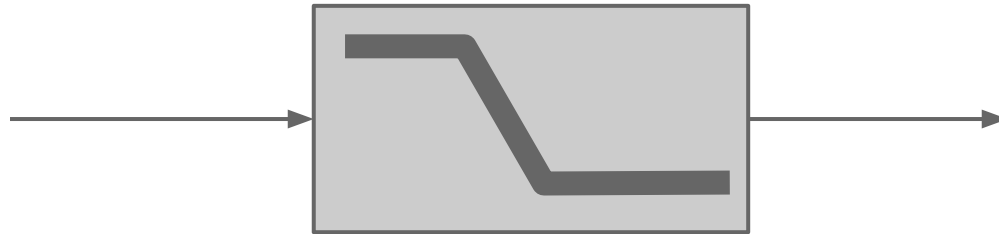
# Common Operations



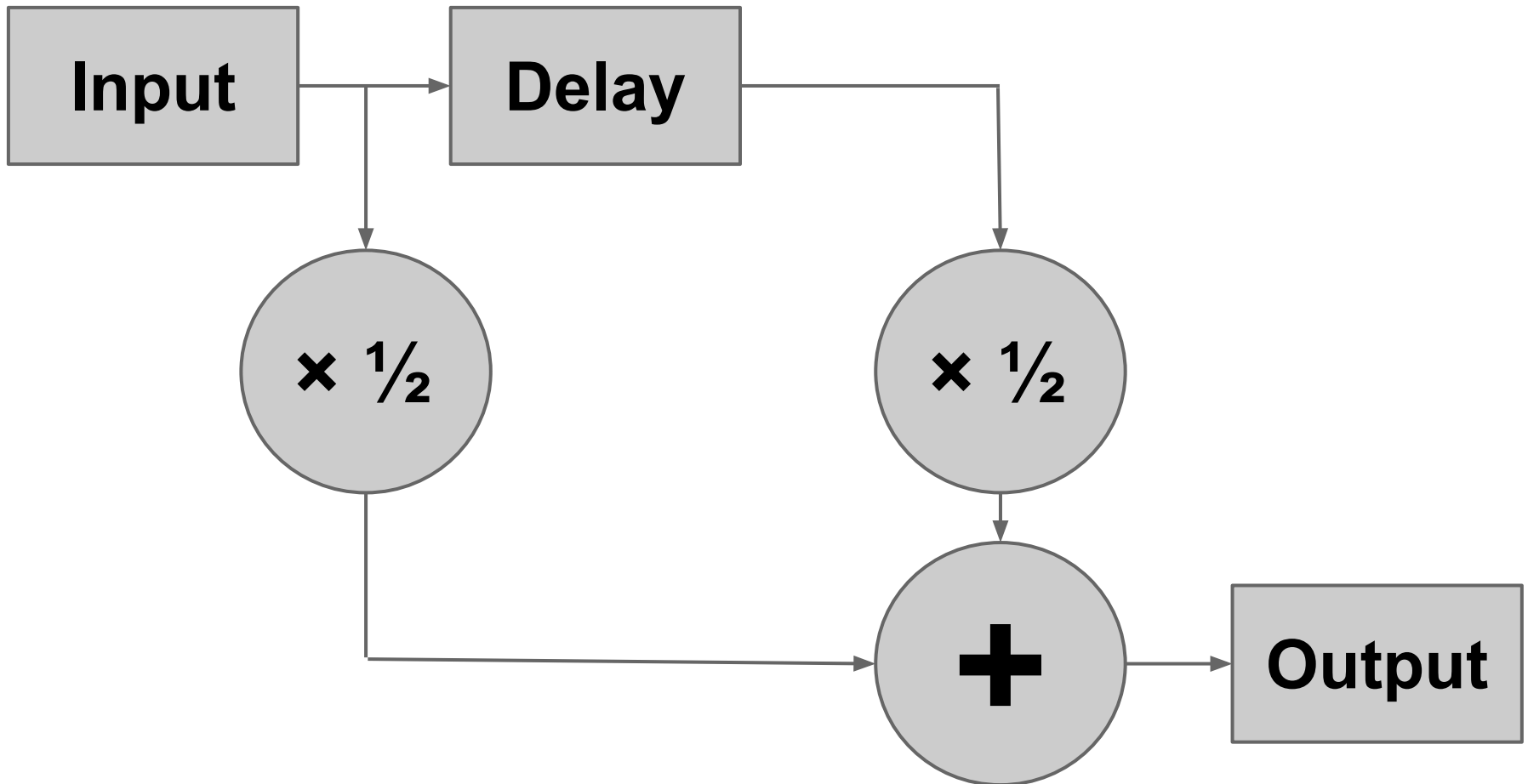
# Frequency Content



# Low Pass Filters

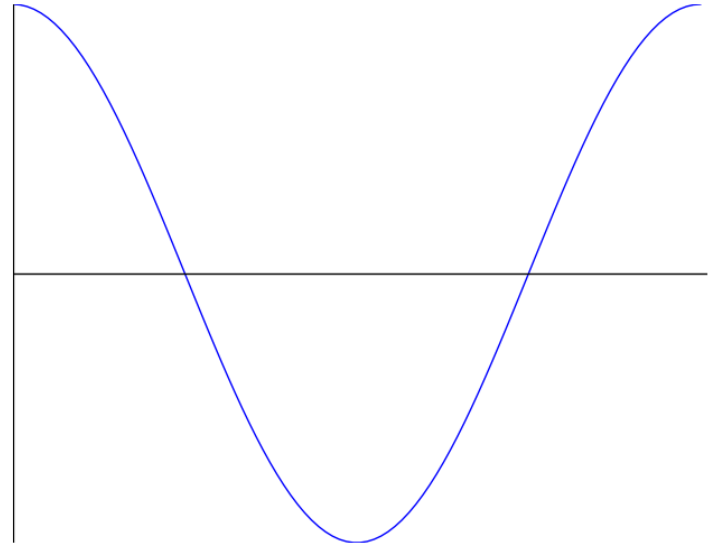
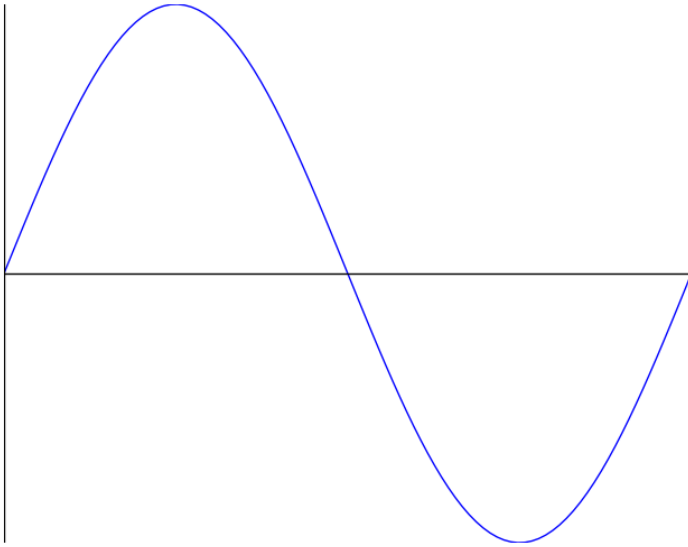


# ~~FIR Filters~~ Moving Average Filter

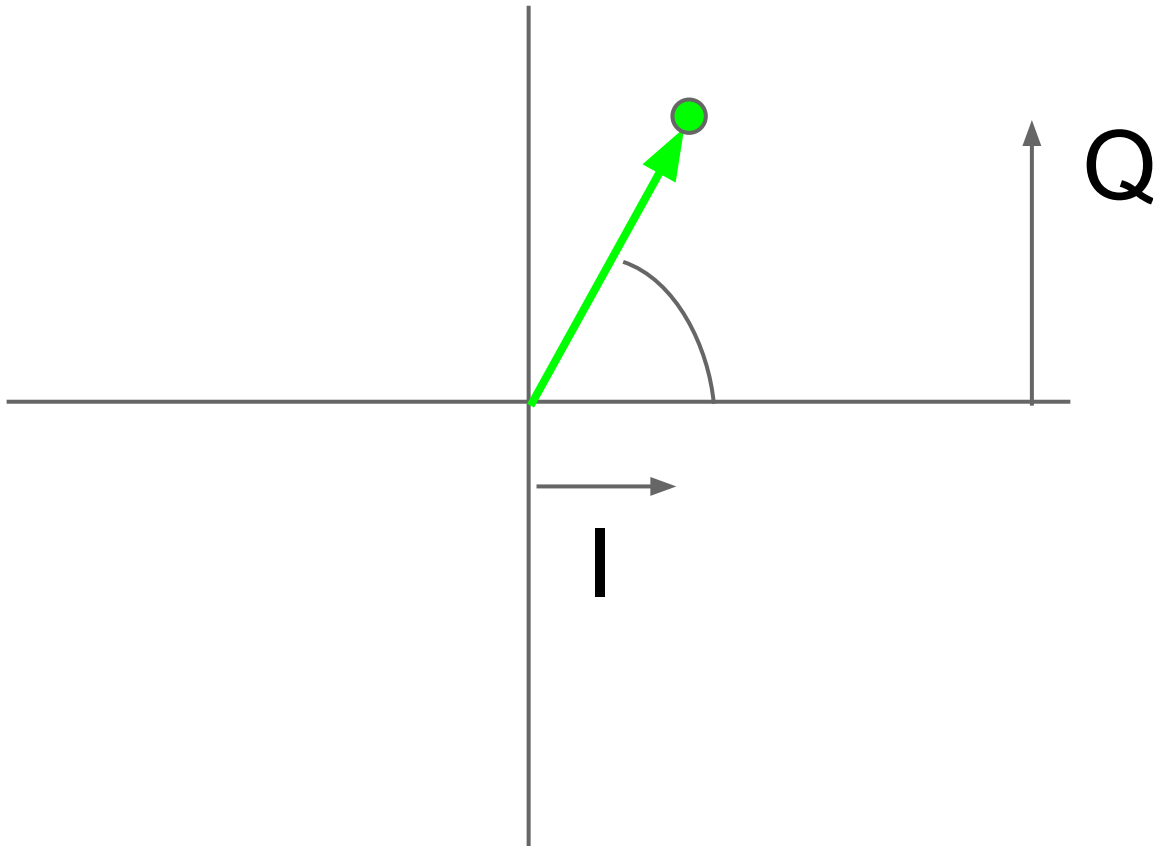




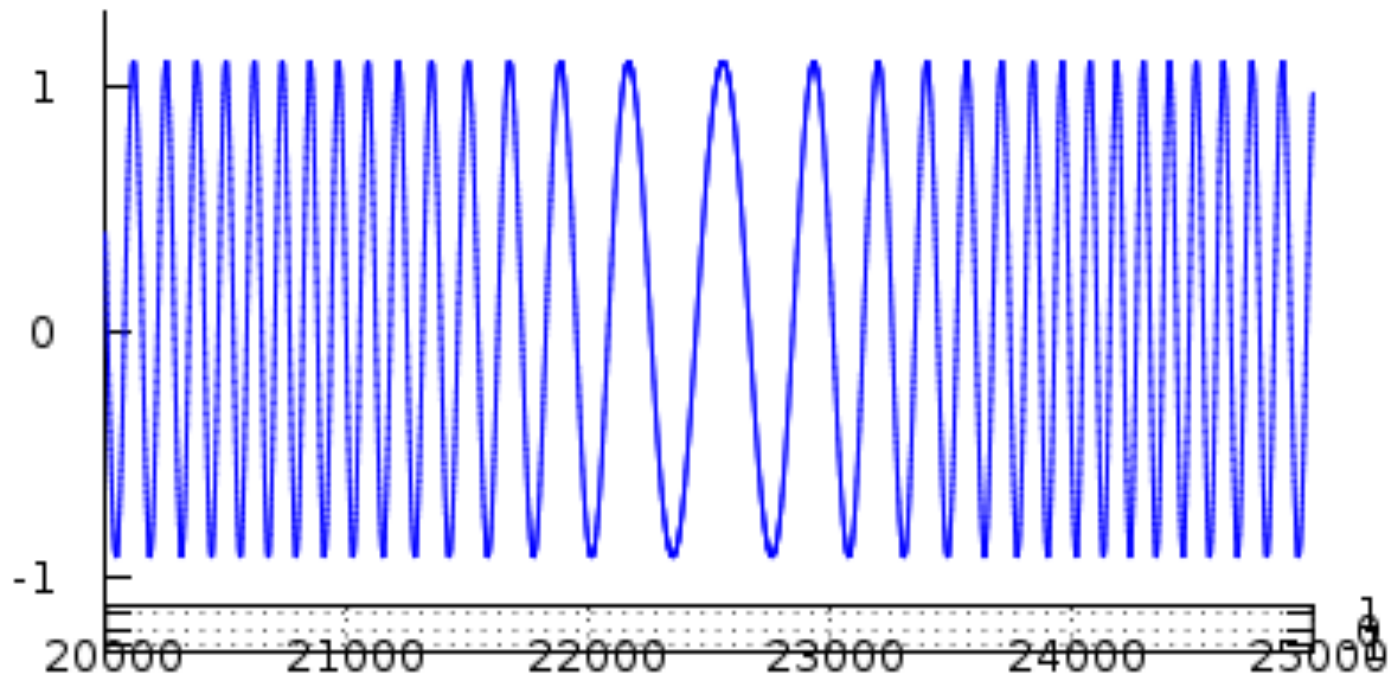
# IQ



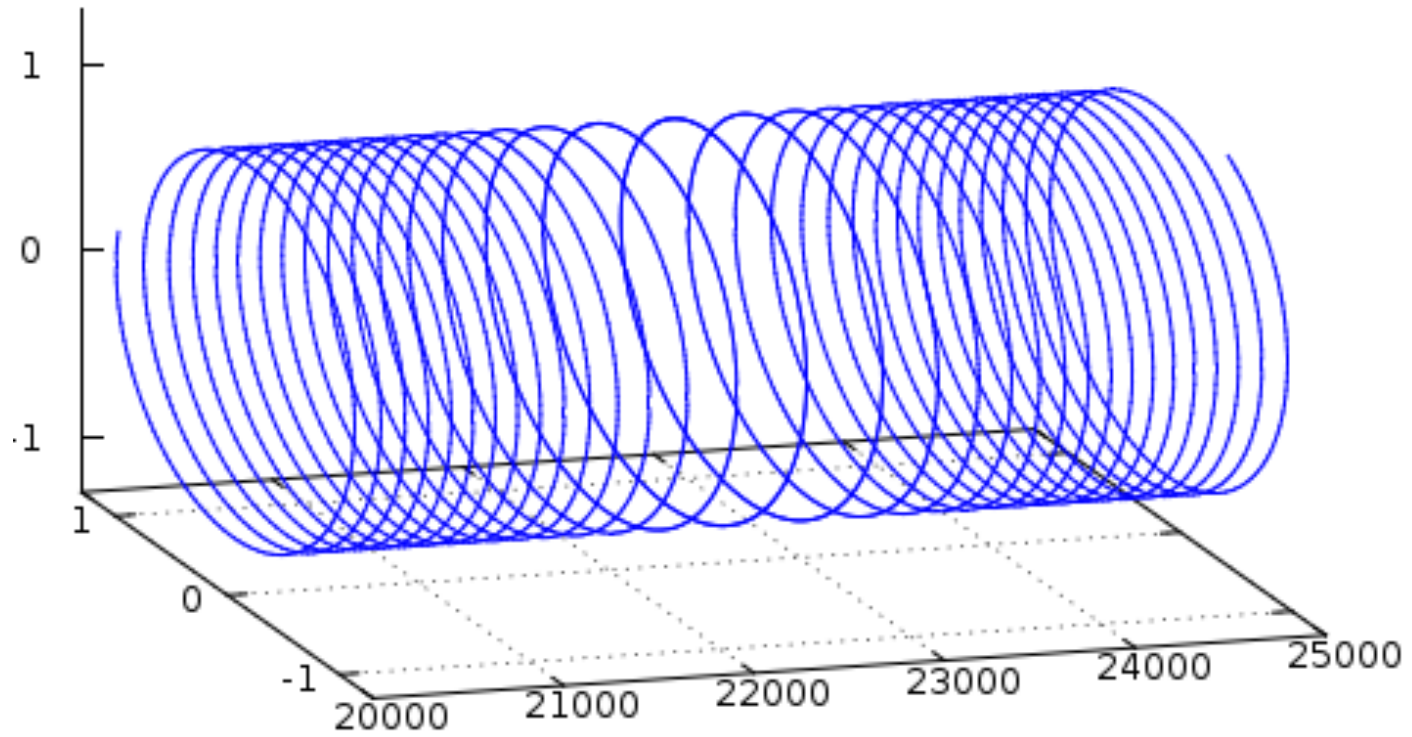
**IQ**



# IQ



# IQ



**IQ**

<http://whiteboard.ping.se/SDR/IQ>

**Mixing**