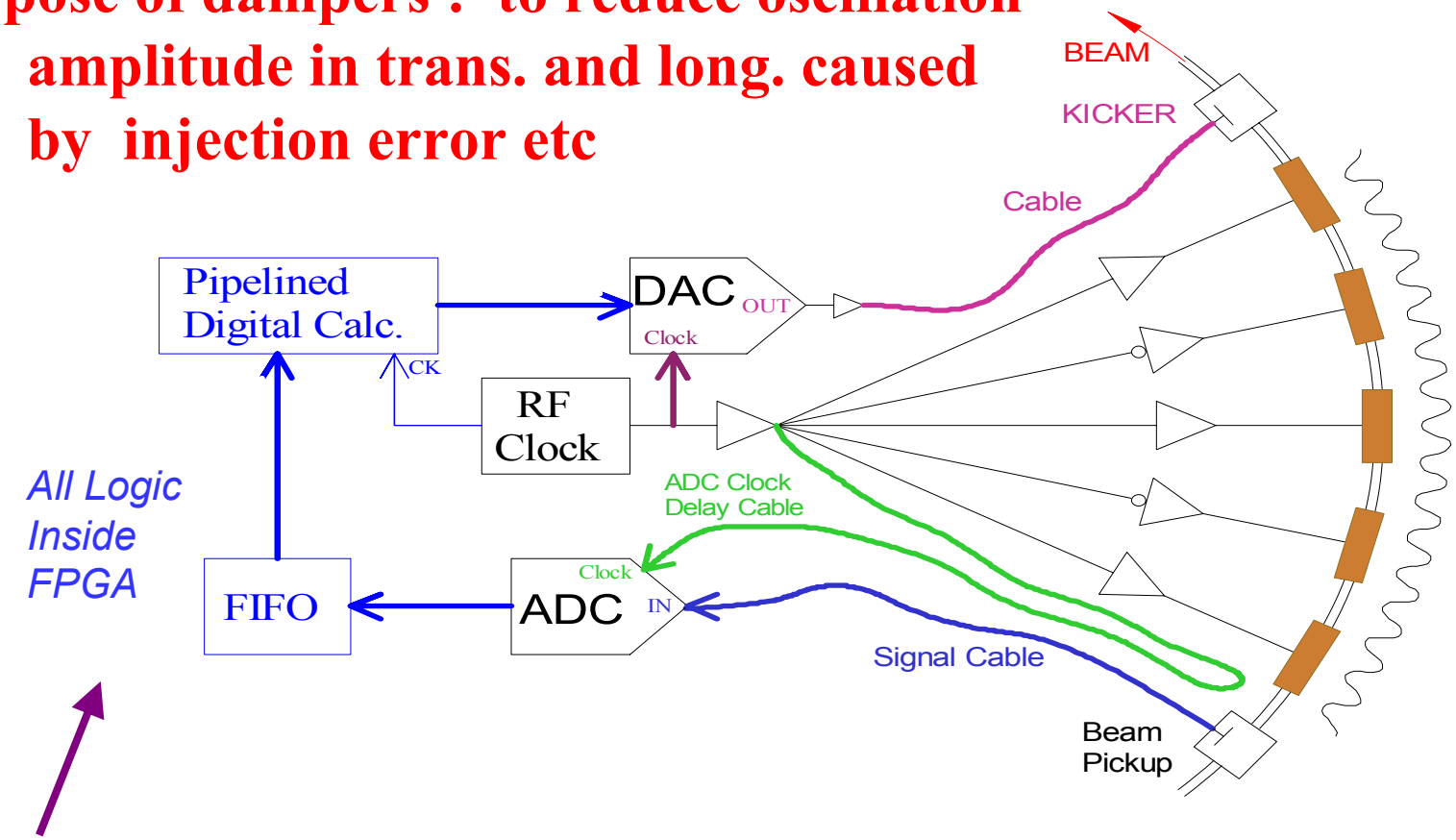
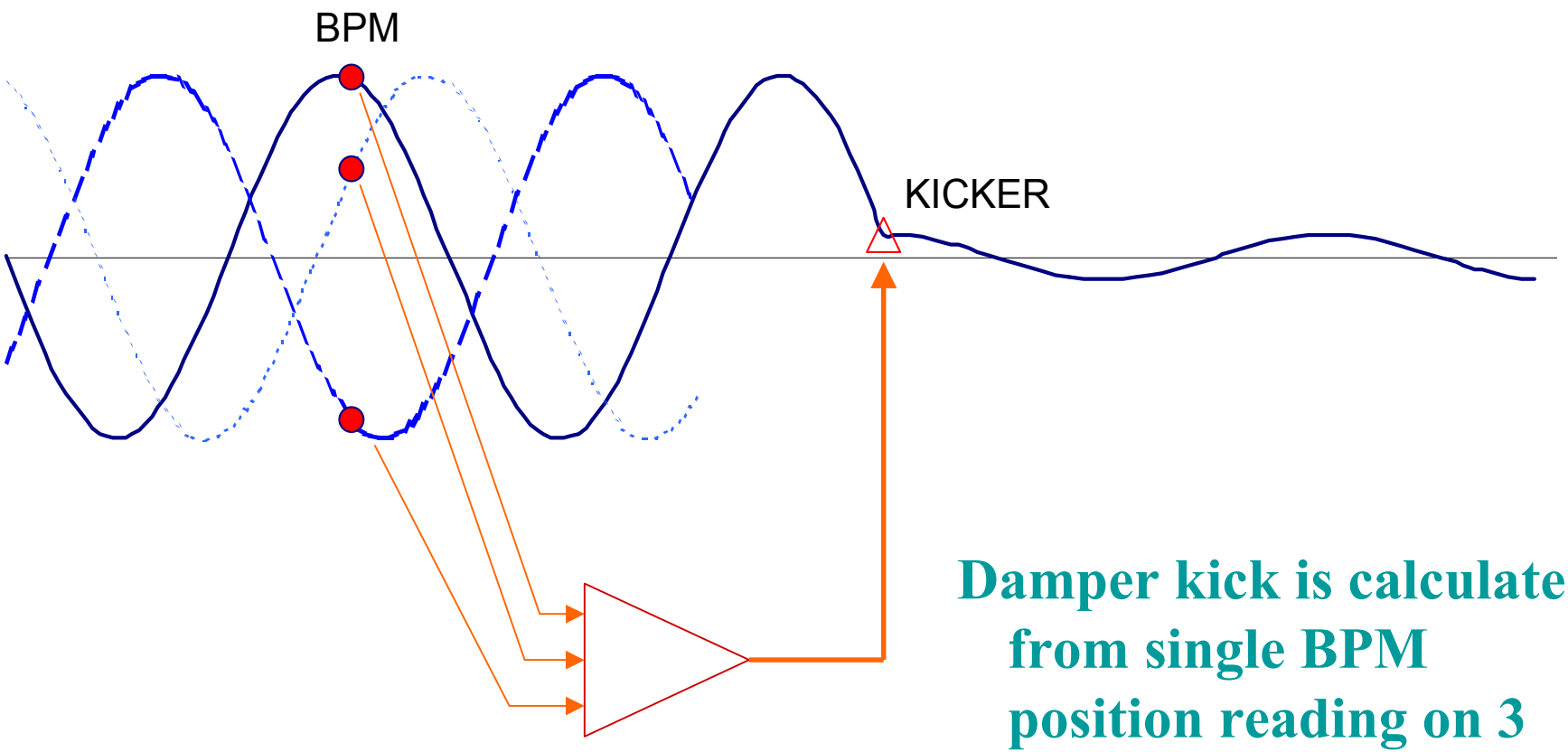
Damper system in MI

Purpose of dampers : to reduce oscillation amplitude in trans. and long. caused by injection error etc

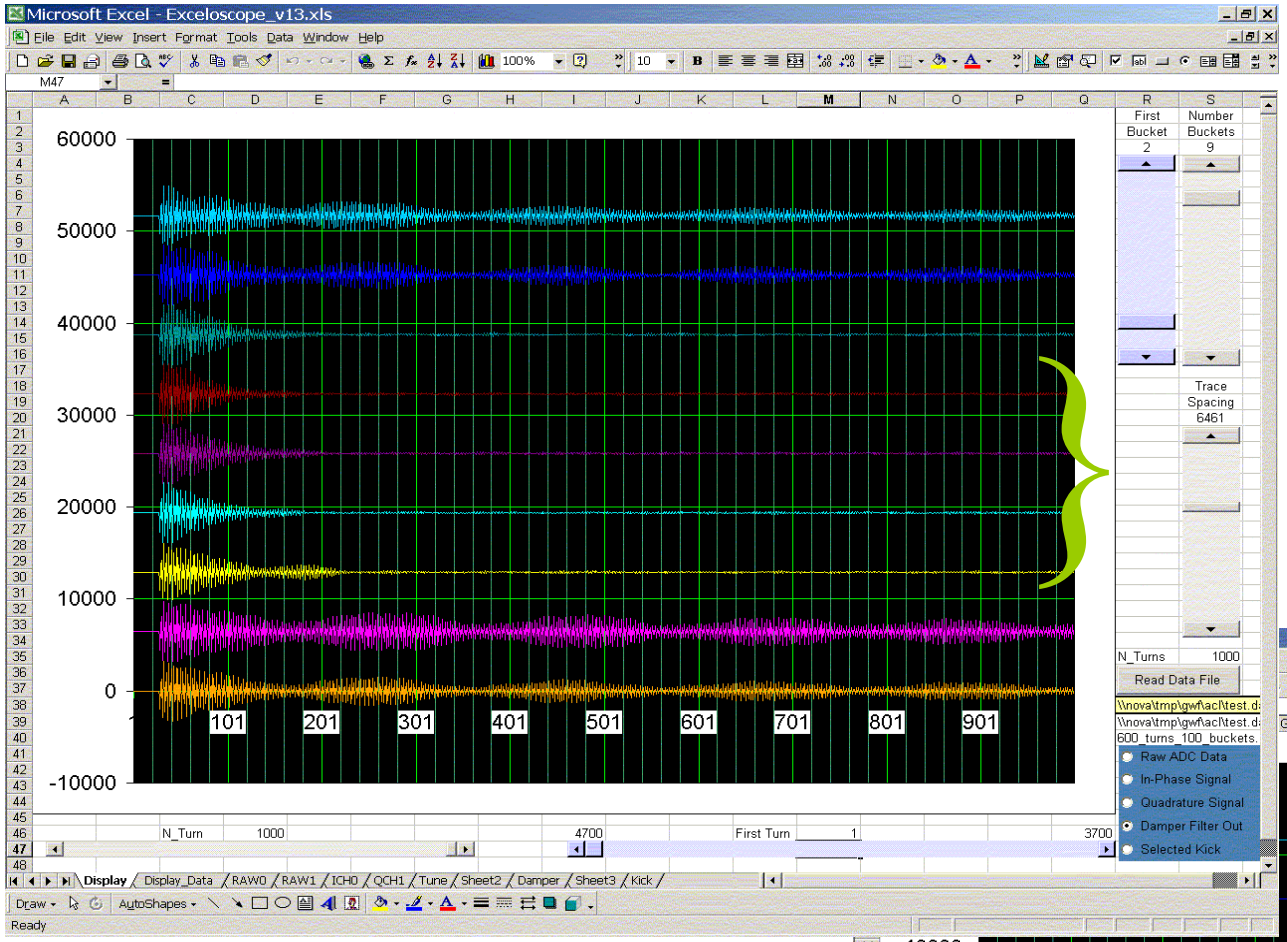


Where I am currently trying to work on

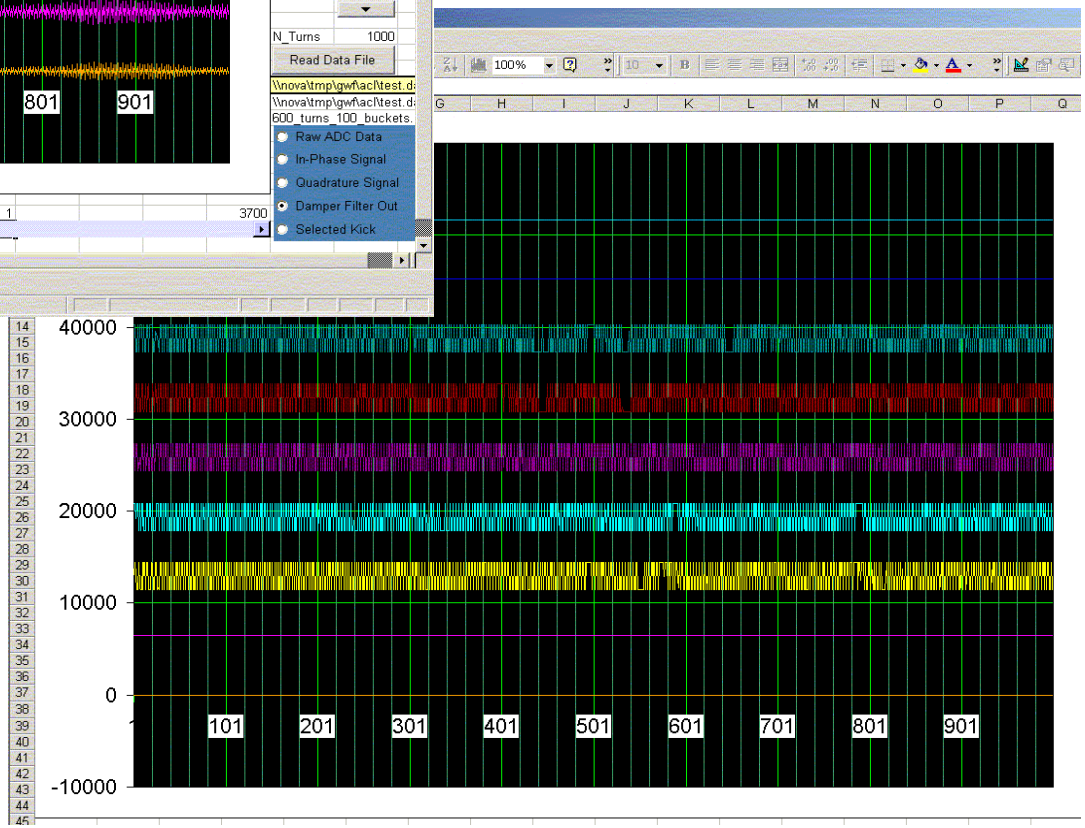
Three-Turn Filter for Transverse Damper



Damper kick is calculated from single BPM position reading on 3 successive turns.

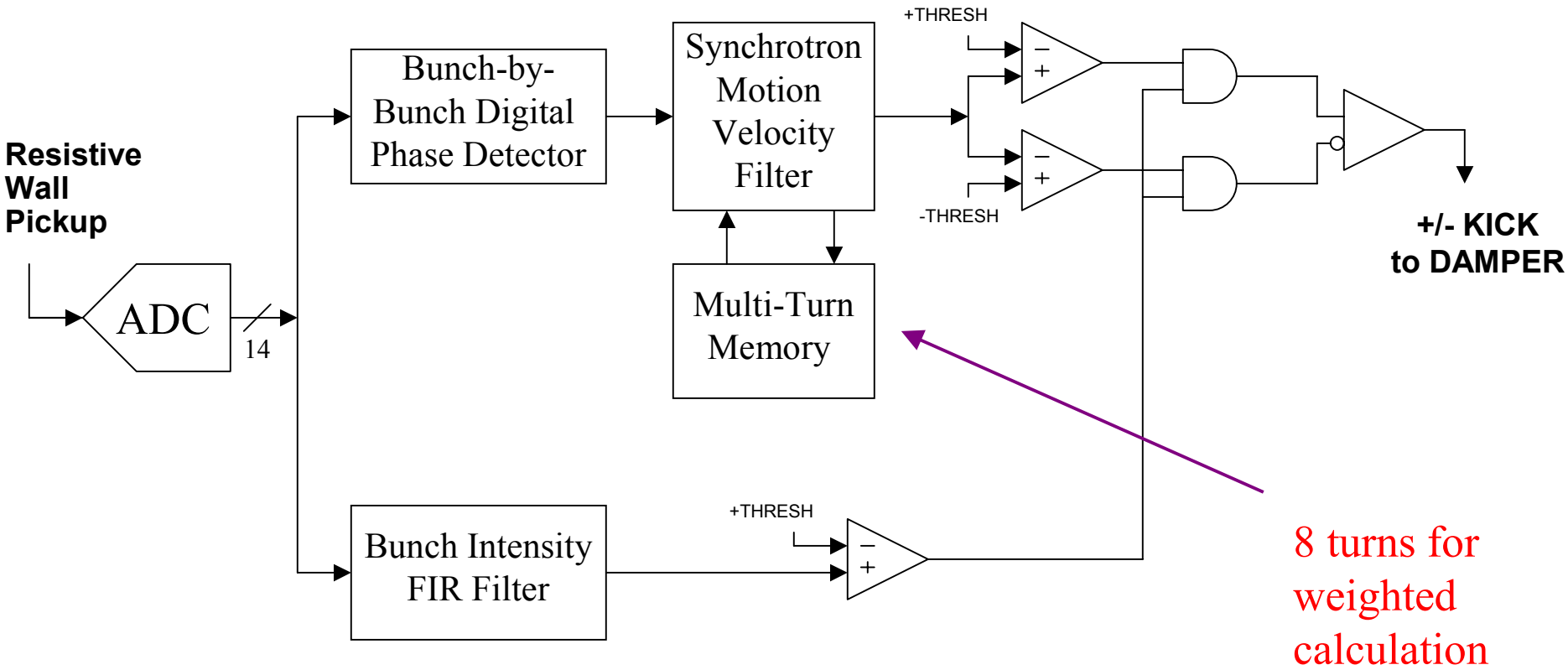


Reduced vertical oscillation



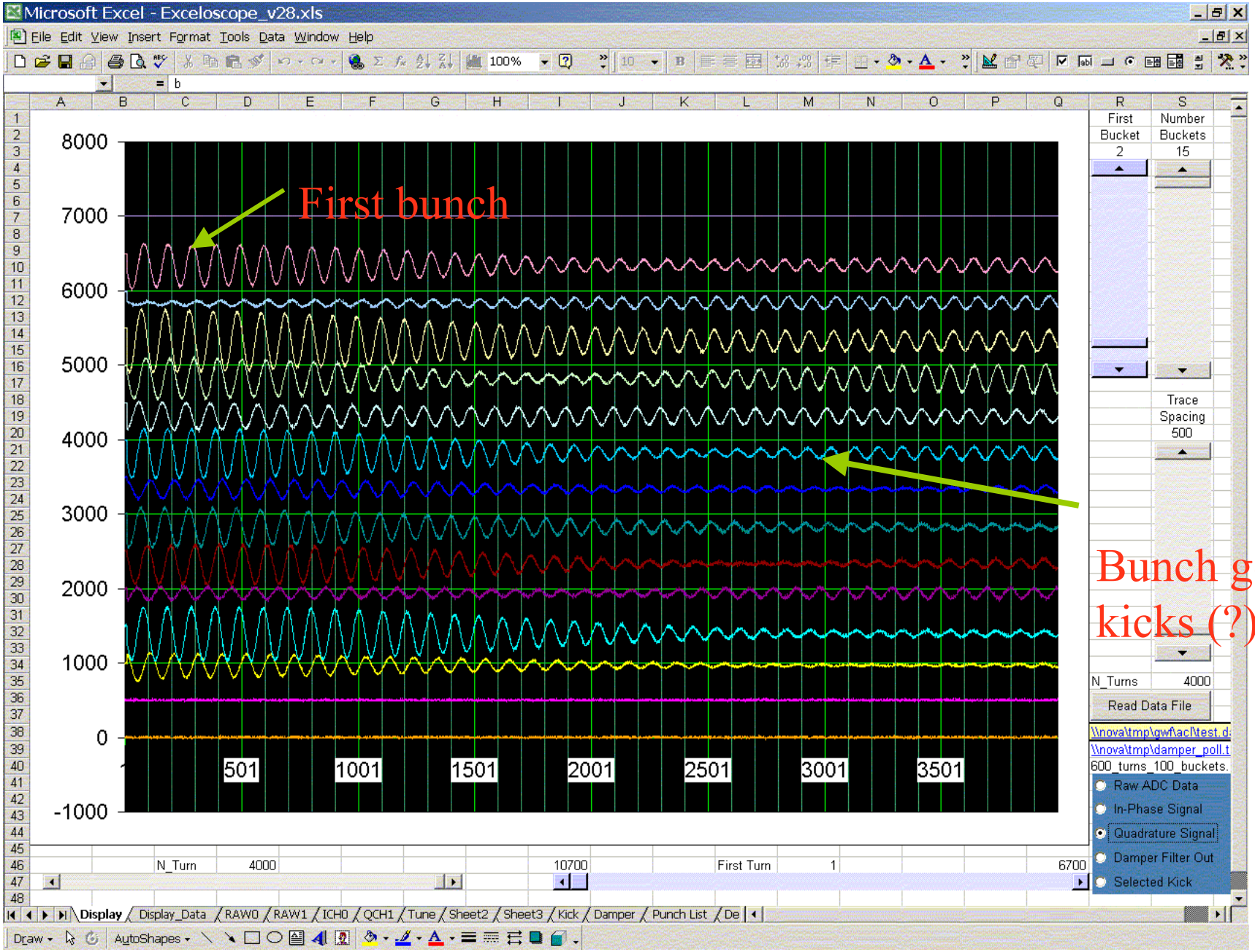
Damping kick signal

Longitudinal Damper FPGA Logic



Individual Bunches are kicked + or – depending on whether they are moving right or left in phase

Attempt to damp down Synchrotron oscillation



Possible reason of ineffective longitudial damping kicks

Timing or phase of kicking is not quite right
: look at the FPGA codes

600V might not be big enough to damp the oscillation
: beam injection is not performed in phase