Trial 1

PUB GetCX | a

a := 852

cFilterX := (a\*(cFilterX-GetRy\*2\*100/10000)/1000 + (1000-a)\*GetAx\*100/100/1000)

return cFilterX



Analysis:

Complementary filter is less jiggle than acc.

But gyro is very jiggling after 80th iteration when physical oscillation occurs.

compFilter should be more stable during small oscillation.

Problem:

CompFilter looks reliable when oscillation’s amplitude is large. But, when the amplitude is small, the oscillation could be smaller then now.

To do:

Reduce oscillation when amplitude is small.

Trial 2

PUB GetCX | a

a := 840

cFilterX := (a\*(cFilterX-GetRy\*2\*100/10000)/1000 + (1000-a)\*GetAx\*100/100/1000)

return cFilterX



Analysis:

compFilter’s oscillation increased.

Damn it!

Trial 3

PUB GetCX | a

a := 950

cFilterX := (a\*(cFilterX-GetRy\*2\*100/10000)/1000 + (1000-a)\*GetAx\*100/100/1000)

return cFilterX

Analysis:

CompFilter looks stable than before. ? Really? Let’s complare 3 trials of compFilter Only.



Trial 4

PUB GetCX | a

a := 970

cFilterX := (a\*(cFilterX-GetRy\*2\*100/10000)/1000 + (1000-a)\*GetAx\*100/100/1000)

return cFilterX



Analysis:

Looks best compFilter…