

### GENERAL IDEA:

- Instead of returning for ksim, we return for ksim:end
- DOES ksim-1 remains the same in the code or does it become ksim-delay??

taking inverter  
calculated from

the ksim-1 time-step

### IDEAS:

- add input: ksim to inverter function
- modify output: instead of outputting filtered voltage for ksim, output it for ksim:end

### Voltage inputs

- in inverter function, add: if ksim % DelayAlongCurve(knode) == 0
- if true: run normal script
- if false: use filtered voltage @ksim-1 to calculate qk/pk, filtered volt

### VBP input

- in inverter function, add if ksim % DelayChangeCurve(knode) == 0
- if true: run normal script with VBP(ksim-DelayCurveParam)
- if false: make VBP == ksim-1 (or just ksim??)

pk/qk is dependent on: 1) filtered voltage @ksim, which is a function of A) voltage @ksim, B) voltage at @ksim-1, C) timestep  
2) VBP @ ksim

--I need filtered voltage & VBP remain the same for every 10 seconds

--I want P/Q to be different every second  
--I want filtered voltage to remain the same for 10 seconds

loads @ ksim  
Q @ ksim-1  
m

map @ ksim  
S at every node @ ksim

to calculate 10 sec delay?  
voltage @ ksim-1  
ation @ ksim  
which was just calculated  
BS @ ksim  
@ ksim-1  
@ ksim

-set at 1

F-set at 1

max inverter capacity

input @ ksim-1

input @ ksim-1

+ BDC activate limit

input @ ksim

input @ ksim

filtered voltage @ ksim

end



for each node:

run observer function to calculate  
filtered voltage

#### IDEAS:

- add input: ksim to observer function
- modify output: instead of outputting values for ksim, output it for ksim:end

- in observer function, add: if ksim %

DelayAlongCurve(knode) == 0

- if true: run normal script

- if false: don't do calculations, just return yk-1, psik-1, epsilonk-1

HP-filtered, epsilon, & filtered voltage are dependent on: 1) voltage @ksim, 2) voltage @ksim-1, 3) epsilon @ksim-1

#### IDEAS:

-- Wait for Dan

, which was calculated

e FBS @ ksim

@ ksim - 1

filtered voltage @ ksim - 1

n-voltage @ ksim - 1

d voltage @ ksim - 1

ter freq - 1

ter freq - 0.1

energy - 1e5

step - set at 1

filtered voltage @ ksim

-voltage @ ksim

Filtered voltage @ ksim

ontrol function to

tes for VBP

-step - set at 1

Filtered voltage which

calculated in the

erber function @ ksim

filtered voltage @ ksim - 1

/ uzk @ ksim - 1

hold

red voltage which was

calculated in the

observer function @ ksim



Outputs:  $u_{pk}/u_{qk}$

@  $k_{sim}$

Calculate new VBP params

Inputs:  $u_{pk}/u_{qk}$

@  $k_{sim}$

$v_1, v_2, v_3, v_4$

Outputs: VBP

@  $k_{sim}$

end

### IDEAS:

#### Option 1:

- store VBP in list
- return VBP for  $k_{sim}:end$ , instead of just  $k_{sim}$
- if  $k_{sim} \% DelayAlongCurve == 0$ :
- calculate new VBP curve
- Then in inverter control function:
  - if  $k_{sim} \% DelayAlongCurve == 0$ :
  - return VBP( $k_{sim}-DelayCurveParam$ )