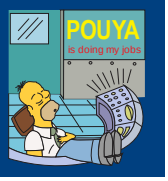
POUYA

Power_system **O**nline_simulation **U**nveil **Y**our **A**nalysis

A Real Time Simulator



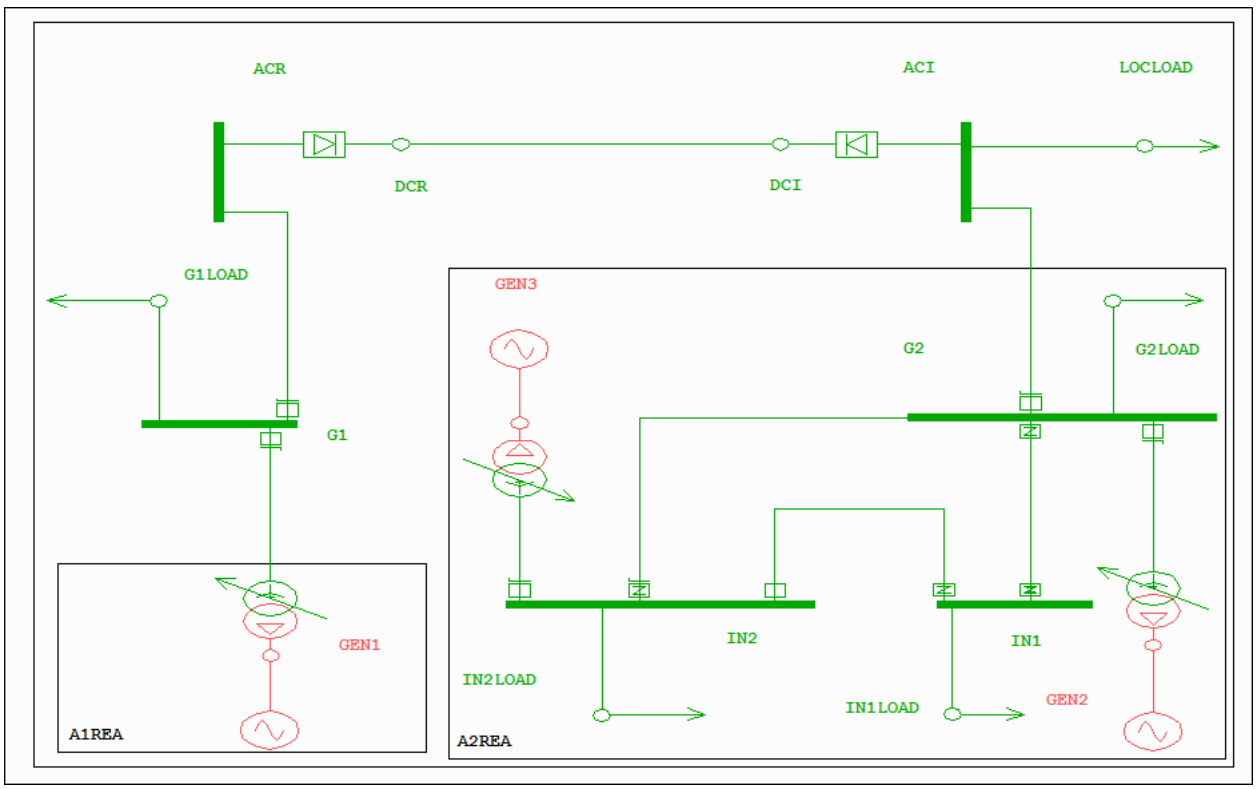
POWER SYSTEM ANALYSIS LAB.

Power system operation – HVDC control

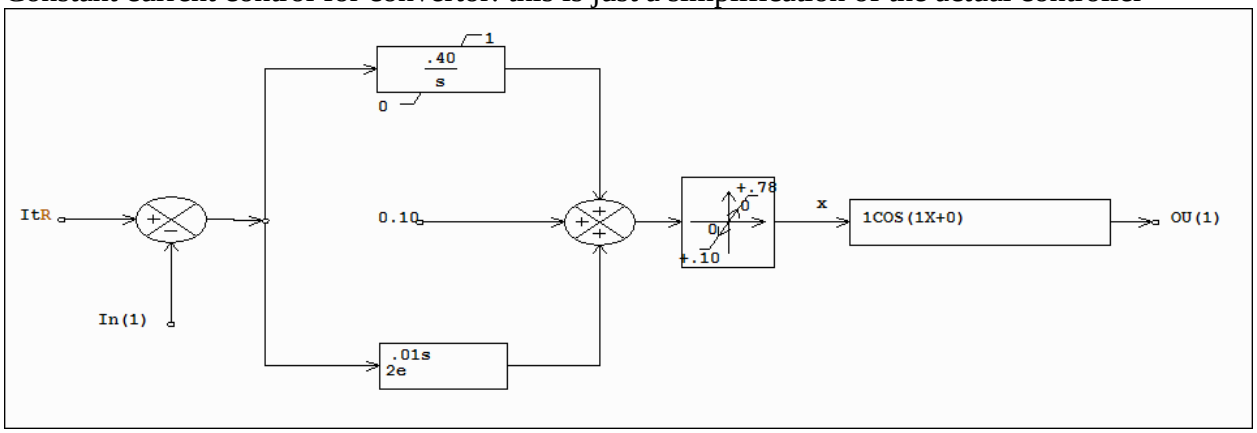
Find the Constant current control for convertor-Constant voltage control for invertor

Note: Needs POUYA version 2014.1 and above

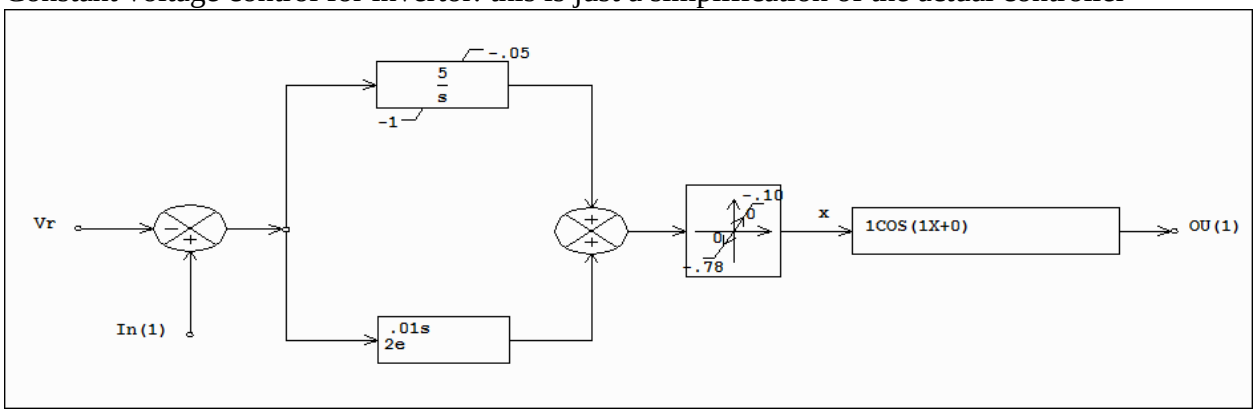
Enter your answers on exercise sheet: http://www.intelectri.com/sheet/j



Constant current control for convertor: this is just a simplification of the actual controller



Constant voltage control for invertor: this is just a simplification of the actual controller



EXERCISES

1- Bring the simplified network and control the HVDC line power with changing the controllers set points;
2- Change the GEN1 AVR reference to see its effect on the system;
3- Change the GEN2 AVR reference to see its effect on the system;
4- Why the angles are changing while the system is stable?
5- Change the tap of the transformers to see its effect on system;
6- PUT fault on busbars and see the blocking of the convertor and invertors
7- Remove the fault and see the effect on HVDC lines
8- Press D on distance relay located on substation IN2 between IN2 and G2 to see the distance charactristic
9- Now reduce the AVR on GEN2 until the relay operates. Why, the distance relay in this location is sensetive to your action?