

POUYA

Power_system Online_simulation Unveil Your Analysis

A Real Time Simulator



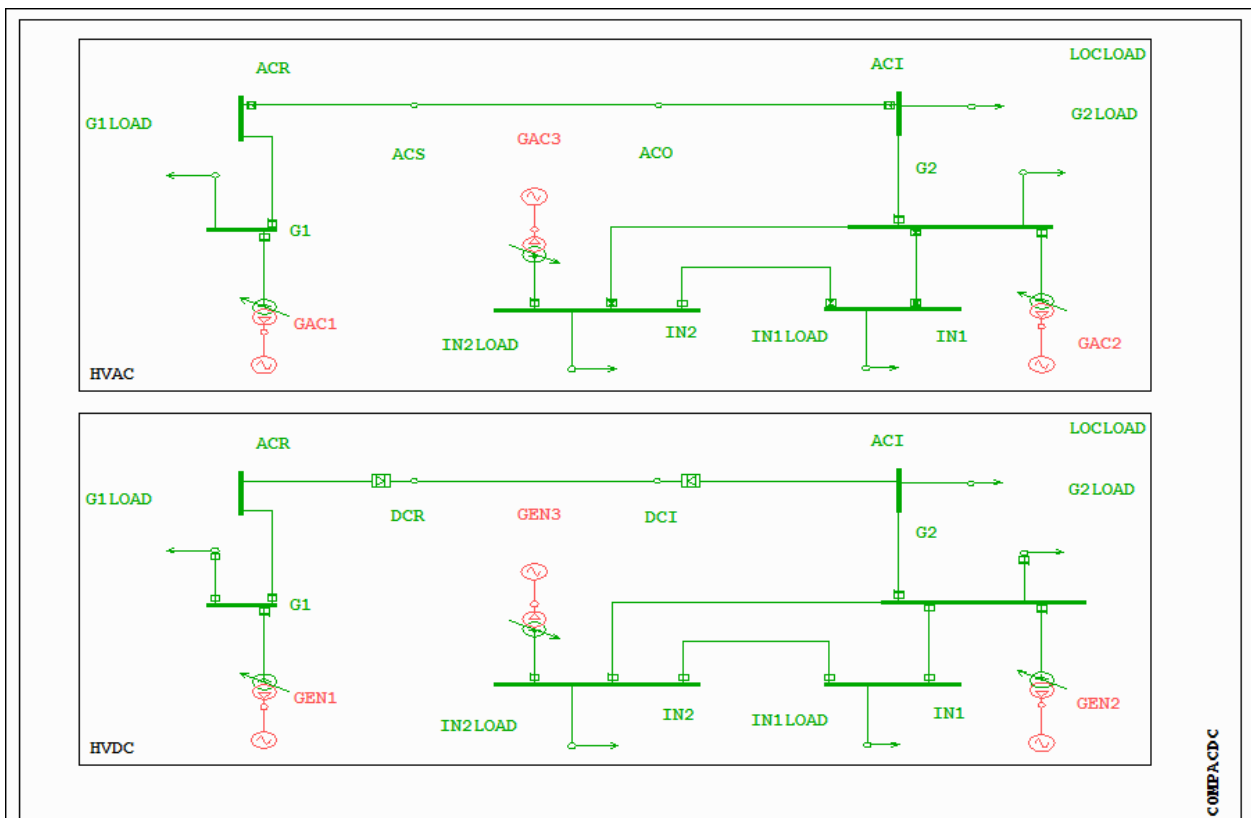

POWER SYSTEM ANALYSIS LAB.

Power system operation – Compare HVDC with HVAC Transmission

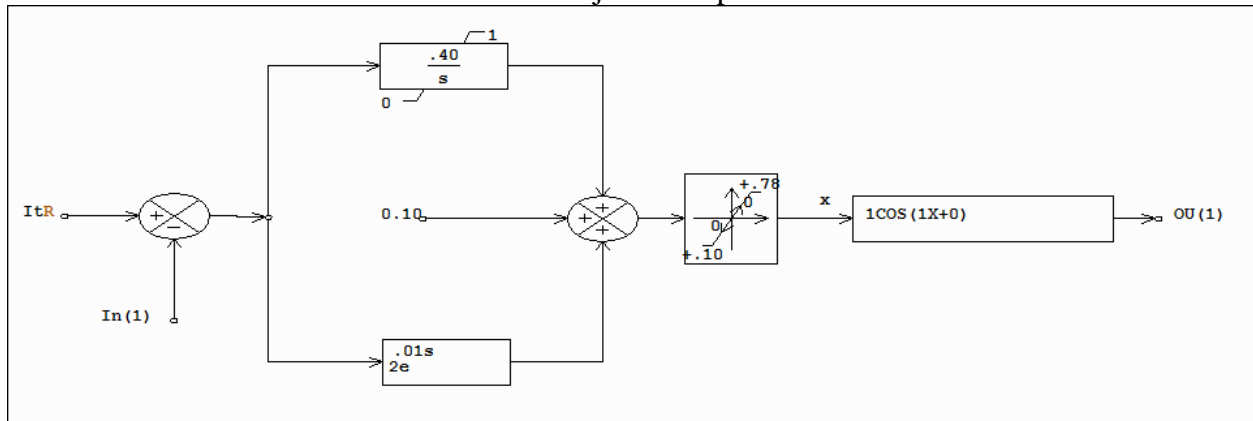
Find the difference between HVDC and HVAC transmission from operation point of view, and stability of the system

Note: Needs to get familiar with HVDC first
<http://www.intelectri.com/linkedin/POUYAj.BAT>

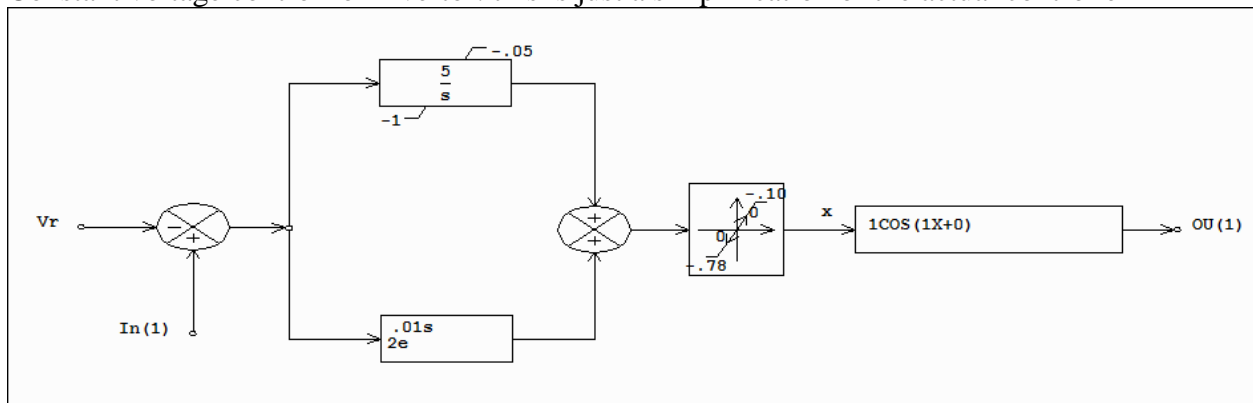
Enter your answers on exercise sheet: <http://www.intelectri.com/sheet/k>



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



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



EXERCISES Do the followings for both HVDC and HVAC and compare them particularly from stability point of view

- 1- Bring the 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 charactrictic
- 9- Now reduce the AVR on GEN2 until the relay operates. Why, the distance relay in this location is sensitive to your action?