**POWER FLOW EQUATION**



Two buses connected with Transmission line parameters

*In case of Lossless Transmission line Sending end complex power equal to receiving end complex power.*

*Put the value of Ir in equation (2), we get*

*IN ABCD Transmission Parameters A = D and AD-BC = 1*

*The value of A and B has some magnitude and some angle, so ∣A∣∠α, ∣B∣∠β, ∣ VS∣ ∠δ and receiving end voltage angle is 0 degree because of balance load so ∣ Vr∣∠0*

*Put these values in equation (3)*

*Conjugate of Current is change the angle sign*

*Now we find the complex power at sending end, it is multiplication of sending end voltage Vs and sending end conjugate current Is\**

*This is sending end complex power, if we find cosine component it means it is active power and fid sine component it is reactive power*

*This is Sending End Active Power*

*Similarly Sending End Reactive Power*