Lecture 13

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- Total Transfer Capability (TTC) Computation

    - With a source and sink bus (with load P_L), slowly increase the load P_L

- DC Power Approximation:

    - From the power flow equation, we get:

    $$P_{km} = \frac{\theta_k - \theta_m}{X}$$

        * This is a linear approximation for the DC power flow

    - Let us assume that there are L lines in a system and n buses. Then, define the line-to-bus incidence matrix A as follows:

    $$A(i,j) = \begin{cases} 1, & \text{if } j \text{ is the sending-end of line } i \\ -1, & \text{if } j \text{ is the receiving-end of line } i \\ 0, & \text{Otherwise} \end{cases}$$