**Designing Automatic Generation Control of Two Area Power System Using MATLAB/SIMULINK**

This project involves designing Automatic Generation Control for a two-area power system based on parameters from Hadi Sadat’s book, “Power System Analysis.” The system comprises two interconnected areas with specific speed regulations, frequency-sensitive load coefficients, and inertia constants. The simulation setup includes base power, governor and turbine time constants, and an operating frequency.

The tasks include analyzing the system’s response to a load change in Area 1, determining the new steady state frequency, and the change in tie line flow1. The model is then modified to ensure that load changes in any area result in generation changes in that area only, aiming to maintain the nominal system frequency.

Key points:

* Automatic Generation Control: The document discusses the design of Automatic Generation Control (AGC) for a two-area power system using MATLAB/SIMULINK.
* System Parameters: It provides specific parameters for each area, such as speed regulation, frequency-sensitive load coefficient, inertia constant, and time constants for governors and turbines.
* Load Change Scenario: An example scenario is presented where a load change of 187.5 MW occurs in Area 1, and the task is to determine the new steady-state frequency and tie line flow change1.
* Research Extensions: The document suggests various research ideas that can be added to the model, including integration of renewable energy resources and advanced control techniques like Fuzzy Logic and Particle Swarm Optimization.