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## On the application of Bezier Surfaces for GA-Fuzzy controller design for use in Automatic Generation Control

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### **Abstract**

Automatic Generation Control (AGC) of large interconnected power systems are typically controlled by a PI or PID type control law. Recently intelligent control techniques such as GA-Fuzzy controllers have been widely applied within the power industry. This work presents a comparative study of conventional AGC control with that of a GAFuzzy controller. In particular this work focuses on the application of Bezier Surfaces in encoding the genetic problem for the Rule Base (RB) representing the fuzzy control surface. It is shown that favorable performance is obtained in the presence of power plant nonlinearities and Generation Rate Constraint (GRC).