A POWER FLOW SOLVABILITY IDENTIFICATION AND CALCULATION ALGORITHM USING EVOLUTIONARY PROGRAMMING (EP)

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ABSTRACT

Power flow is the solution for the static operating condition of an electric-power transmission system with a set of system parameters and properties. This paper proposes the Evolutionary Programming (EP) technique to estimate the power flow solvability by using IEEE 6-bus Reliability Test System (RTS). The algorithm obtains the power flow solution for the solvable of power system case only. The proposed algorithm is based on the parameterization of distance from the starting point to the real power flow to be solved. It means to find both the voltage magnitude and angle respectively. The study involves the development of EP engine. The programming codes were written in MATLAB to implement the obtain load flow solution.

Keywords – Power flow solution, Evolutionary Programming (EP), voltage magnitude and angle.

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