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Development of Neuro controller for ZCS Quasi-Resonant

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Abstract - Literature review revealed that in many pulse width modulated DC-DC convertor topologies, the controllable switches are operated in switch mode where they are required to turn the entire load current on and off during each switching cycle . under these conditions, the switches are subjected to high switching stresses and power losses . Recently there is an increased interest in the use of quasi-resonant type DC-DC convertors due to the advantages of high frequency of operation, high efficiency, small size, light weight, reduced Electro Magnetic Interference (EMI) and low component stresses . DCDC ZCS Quasi- resonant Luo convertors find applications especially in distributed energy systems like solar systems, vertical axis aero-generator and fuel cell power systems , DC-DC ZCS Quasiresonant Luo convertors are also employed in a variety of applications including power supplies for personal computers, space-craft power systems, lap top commuters, telecommunication equipments as well as DC motor drives ,The main objectives of this work are (i) development of neuro controller of ZCS Quasi - resonant Luo convertor using MATLAB (Version 7.01) software (ii)TMS 320F2407 DS based hardware implementation of neuro controller and (iii) evaluation of controllers performances . It is found that the control developer fast responses and good performances. It is found that the control developed provides fast responses and good performance. The simulation and experimental results closely match with each other and highlight the feasibility and validity of the developed control scheme .