

STATE-SPACE AVERAGE MODELLING OF 18-PULSE DIODE RECTIFIER

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Abstract - The paper presents an averaged-value model of the direct symmetric topology of 18-pulse autotransformer AC-DC rectifiers. The model captures the key features of the dynamic characteristics of the rectifiers, while being time invariant and computationally efficient. The developed models, validated by comparison of the resultant transient and steady state behaviours with those obtained from detailed simulations can, therefore, be used for stability assessment of electric power systems with diode rectifiers, multiple power electronic converter-controlled loads and electrical drives*.