

عنوان مقاله:

(Three New Systematic Approaches for Computing Heffron-Phillips Multi-Machine Model Coefficients (RESEARCH NOTE

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خلاصه مقاله:

This paper presents three new systematic approaches for computing coefficient matrices of the Heffron-Phillips multi-machine model ( $K_1, \dots, K_6$ ). The amount of computations needed for conventional and three new approaches are compared by counting number of multiplications and divisions. The advantages of new approaches are: (۱) their computation burdens are less than ۷۳ percent of that of conventional approach, for a reduced network, (۲) they are able to model infinite bus directly, whereas the conventional approach cannot, (۳) The second and third approaches are able to account for voltage dependent loads and (۴) The third approach preserves network structure and doesn't deal with q and d components and Blondel-Park transformation. The coefficients of the Heffron-Phillips model for a five-bus network and the New England system are computed by four approaches. The results agree within the bounds of admissible approximation. Computation times confirm the result of counting number of multiplications and divisions.

کلمات کلیدی:

Simplified Linear Model, multi, Machine Models, Heffron, Philips Model

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