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## Adaptive Element Equivalent Circuit of No-Insulation High Temperature Superconductor Coil Containing Multiple Defects

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Previously we reported our new circuit model, named as “B model”, for fast and effective simulation of a no-insulation (NI) high temperature superconductor (HTS) coil having a “single” defect. A primary benefit of the “B model” over the conventional distributed network model is to use only “five segments” of the defect-existing turn in an NI HTS coil, while a substantially larger number of turn segments is commonly required to the conventional network model. As a sequel to our previous study, here we report an upgraded version of our B model, named as “Adaptive B model”, for simulation of an NI HTS coil having “multiple” defects. To validate our new model, an NI HTS coil having 3 or more defects was constructed and its electromagnetic responses were measured for comparison with calculated results by use of our new model. For further verification, we also performed the comparison of simulation results between our new Adaptive B model and the conventional distributed model.

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