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Computational Analysis Code Development for Emergency Heat Removal of Pool-style Fast Reactors

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For the lacking of applicable code to analyze emergency heat removal capacity of pool-style fast reactors, it is developed according to the design requirement of demonstration fast reactors. The code builds a consolidated platform developing modules of reactor core, sodium pool, relevant components and so on individually from one-dimension to three-dimension, forming program module packages (in which the reactor core contains an inter-wrapper flow model, and relevant verification experiments are also arranged); in order to meet application requirements at different stages of the engineering design, the corresponding modules can be selected to perform coupling calculation. The code can be used for computational analysis of various means of emergency heat removal including inter-wrapper cooling.

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