

عنوان مقاله:

Thermal-Hydraulics analysis of pressurized water reactor core by using single heated channel model

محل انتشار:

مجله مکانیک کاربردی و محاسباتی، دوره 3، شماره 3 (سال: 1396)

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خلاصه مقاله:

Thermal hydraulics of nuclear reactor as a basis of reactor safety has a very important role in reactor design and control. The thermal-hydraulic analysis provides input data to the reactor-physics analysis, whereas the latter gives information about the distribution of heat sources, which is needed to perform the thermal-hydraulic analysis. In this study single heated channel model as a very fast model for predicting thermal hydraulics behavior of pressurized water reactor core has been developed. For verifying the results of this model, we used RELAP5 code as US nuclear regulatory approved thermal hydraulics code. The results of developed single heated channel model have been checked with RELAP5 results for WWER-1000. This comparison shows the capability of single heated channel model for predicting thermal hydraulics behavior of reactor core.

کلمات کلیدی:

Nuclear Reactor, Thermal hydraulics, RELAP5, Single Heated Channel Model

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