快报

关于多堆年情况下堆芯损坏概率的讨论

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摘要　　反应堆堆芯损坏是反应堆运行中可能出现的严重事故。概率安全分析可得出单个反应堆的堆芯损坏频率，而在多堆年情况下发生堆芯损坏次数的概率则可由概率论中的二项分布来计算。经计算，在堆芯损坏频率为 10^{-4}/堆年情况下，1万堆年发生堆芯损坏的概率约为0.63。

关键词　　反应堆　概率安全分析　堆芯损坏频率　二项分布
分类号　TL334

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Discussion of Reactor Core Damage Probability Under Condition of Multiple Reactor Years

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Abstract Nuclear reactor core damage is a possible severe accident during nuclear reactor operation. Based on the probabilistic safety assessment, the core damage frequency of a single nuclear reactor could be drawn. But concerning the probability of the number of core damage under the condition of multiple reactor years, it follows the binominal distribution. After calculation, with 10^4 reactor years of operation and 10^{-4} of core damage frequency, the probability of core damage is about 0.63.

Key words nuclear reactor probabilistic safety assessment core damage frequency binominal distribution

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