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**Characteristics of Dynamic Behavior for  
Integral Reactor SMART**

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**Abstract**

Dynamic characteristics of an advanced integral reactor, the SMART (System-integrated Modular Advanced Reactor), were investigated using an equivalent beam model. An effective lumped mass model to preserve the dynamic behavior of the reactor vessel is presented. The equivalent beam model for the dynamic analysis was developed through iterative runs. The results show that the fundamental frequency of the SMART is around 20Hz in the horizontal direction.