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Process Model of the Gas Recovery System in an IFE reactor
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— It is necessary to develop a detailed representative model for the fuel recovery system (FRS) in the prospective direct drive inertial fusion energy (IFE) reactor. In order to observe the interaction of all components, a chemical process model is developed as part of the conceptual design phase of the project. Initially, the reactants, system structure, and processes are defined using the known contents of the vacuum vessel exhaust. The output, which will include physical properties and chemical content of the products, is analyzed to determine the most efficient and productive system parameters. The results of the modeling will be presented in this paper. This modeling exercise will be instrumental in optimizing and closing the fusion fuel cycle in the IFE power reactor.

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