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## **Development of the Combination Method For Minimizing Composition Variability of DUPIC Fuel Feedstock**

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### **ABSTRACT**

*A combination method of spent pressurized water reactor fuel for the optimization of DUPIC fuel composition was developed. This method reduces the composition heterogeneity (uncertainty) of the DUPIC fuel introduced by a diverse distribution of spent PWR fuel composition. In this study, a genetic algorithm, which is one of the artificial intelligent approaches, was used to find the optimum mixture composition from the spent PWR fuel composition database. This study has shown that the uncertainty of DUPIC fuel composition could be reduced significantly by the genetic algorithm modeling.*