Corrigendum

F. RAHNEMA, "Boundary Condition Perturbation Theory for Use in Spatial Homogenization Methods," *Nucl. Sci. Eng.*, **102**, 183 (1989).

In regard to the above manuscript, the text between line 13 and the last paragraph in the first column on p. 188 should read as follows:

$$\alpha_{1g} = \sum_{h=1}^{G} \sum_{i=1}^{I} \bar{\gamma}_{hi} \bar{q}_{hgi} \ , \tag{40}$$

where

$$\bar{q}_{hgi} \equiv \frac{-\int_{\partial V_i} dS_i \phi_{0hi} \phi^*_{0hi}}{\int_V d\boldsymbol{r}\, \phi_{0g}} \ , \quad h = 1,2,\ldots,g,\ldots,G \ , \tag{41}$$

with

$\bar{\gamma}_{hi} \equiv$ constant surface current-to-flux ratio for group h calculated by the nodal method for each nodal surface ∂V_i

$I \equiv$ total number of surfaces (∂V_i) of each homogenized region (node) V.

Therefore, with the flat boundary condition assumption, a further simplification in the new homogenization process is achieved. That is, the additional homogenization parameters now become surface constants $\bar{q}_{hgi}$ instead of functions $\phi_{0g}(\boldsymbol{r}_s)/N_g$ and $\phi^*_{0g}(\boldsymbol{r}_s)/N_g$. The overall procedure for solving the global homogenized problem can be summarized in the following steps:

1. Perform conventional fine-mesh cell calculations to compute approximate homogenized parameters for each fuel (assembly) type in the reactor.

2. Compute the additional parameters by solving the fine-mesh fixed-source (adjoint) problem for each fuel type. These parameters are either $\phi_{0g}(\boldsymbol{r}_s)/N_g$ and $\phi^*_{0g}(\boldsymbol{r}_s)/N_g$ or $\bar{q}_{hgi}$ for use in Eq. (29) or (40), respectively.