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Erratum

Erratum to: Kinetic measurement and prediction of the hydrogen outgassing from the polycrystalline $LiH/Li_2O/LiOH$ system by L.N. Dinh et al., J. Nucl. Mater. 347 (2005) 31

L.N. Dinh *

Lawrence Livermore National Laboratory, Chemistry and Materials Science, P.O. Box 808, L-092, Livermore, CA 94552, USA

Eq. (3) of this paper needs the following clarification and correction.

The exact form of Eq. (3) should be:

$$\int_0^{\alpha} \ln\left(\frac{d\alpha}{dT/\beta}\right) d\alpha = -\frac{1}{R}\int_0^{\alpha} \frac{E\,d\alpha}{T} + \int_0^{\alpha} \ln(\upsilon f(\alpha))\,d\alpha$$

If the activation energy barrier of the process under study is constant, the above equation can be simplified to Eq. (3) in the paper. Eq. (3) can be used as a test to see if the activation energy barrier of the process under study is constant or not. However, using Eq. (3) when E varies with α (as done in this paper) is equivalent to approximating the value of E from 0 to α with a constant E. A more accurate approach to numerically approximate values of E vs. α is as following:

$$\int_0^{\alpha_i} \ln\left(\frac{d\alpha}{dt}\right) d\alpha + \int_{\alpha_i}^{\alpha_{i+1}} \ln\left(\frac{d\alpha}{dt}\right) d\alpha + \cdots = \left[-\frac{E_i}{R}\int_0^{\alpha_i} \frac{d\alpha}{T} + \int_0^{\alpha_i} \ln(\upsilon f(\alpha))\,d\alpha\right] + \left[-\frac{E_{i+1}}{R}\int_{\alpha_i}^{\alpha_{i+1}} \frac{d\alpha}{T} + \int_{\alpha_i}^{\alpha_{i+1}} \ln(\upsilon f(\alpha))\,d\alpha\right] + \cdots$$

given the α_i to α_{i+1} interval is small.

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* Tel.: +1 925 422 4271; fax: +1 925 424 4737.
E-mail address: dinh1@llnl.gov

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