

Taking for both liquids the same flow rate Q , the same radius and $K = m$, we get:

$$\Delta P_{nN} = (\Delta P_N)^n \left(\frac{2K}{R} \right)^{(1-n)} \left(\frac{3}{4} + \frac{1}{4n} \right)^n \quad (\text{A7})$$

In the above expression, the last parenthesis is a very mild function of n . It contributes with 12% for $n=0.1$. For our system the contribution is below 4% and may be disregarded.

The result is that the ratio of pressure drop (non-Newtonian liquid/Newtonian liquid) is independent of K and proportional to $R^{3(1-n)}$. The latter ratio will be larger than unity only for extreme values of R . For the case of turbulent flow, the pressure drop is calculated by a similar procedure (Eqs. A1 to A3), but using a generalized Reynolds number as recommended by Perry (1963). Again, the pressure drop is negligible.

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Errata

Correct Figure 4 (p. 795) of the article titled "Oxygen Permeation through Thin Mixed-Conducting Solid Oxide Membranes" by Y.-S. Lin, W. Wang, and J. Han (May 1994, p.786) is:

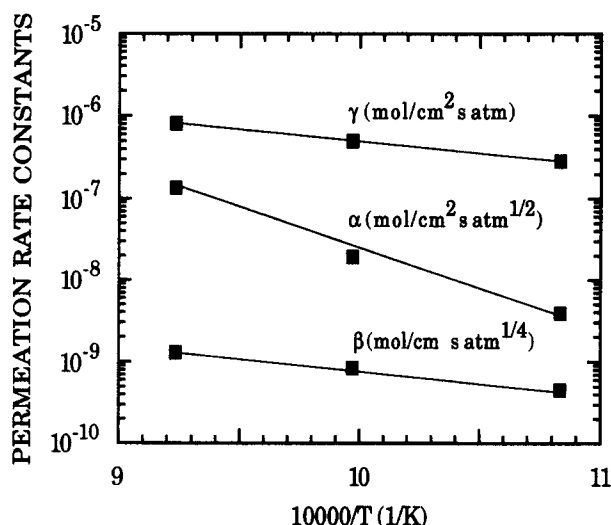


Figure 4. Arrhenius plots of permeation rate constants α , β and γ in the theoretical model for erbia stabilized bismuth oxide membrane.

In the article titled "Shape and Extent of the Void Formed by a Horizontal Jet in a Fluidized Bed" by Libin Chen and Herbert Weinstein (December 1993, p. 1901), the last conclusion should read "The jet penetration lengths measured agreed with the correlations of Zenz (1968), Merry (1971) and Shakhova (1968)," since correct calculations with the Zenz correlation were in good agreement with our data. In Figure 6, which compares our measured jet penetration lengths with correlations from the literature, the points from the Zenz (1968) correlation were not calculated correctly. Corrected Figure 6 is as follows:

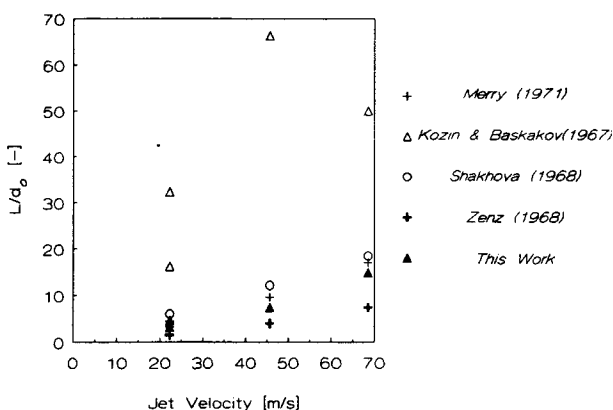


Figure 6. Comparison of experimental data for jet penetration length with predicted values.