



Figure 2 ANGLE TRANSLATION ERROR AS A FUNCTION OF THE REFERENCE ANGLE

In order to examine the region of small error in greater detail, in Figure 2 we have plotted the error (or difference between the exact and approximate angle translation methods). This graph also shows the effect of using different reference angles in place of the 43 degrees used in Figure 1.

A reference angle of 43 degrees appears to be nearly optimum. We also see that the error is zero at two points on each curve, but the error is low over a wider region of  $\theta_{old}$  for the 43 degree reference angle. This fact could be used for selecting a reference angle to minimize the error over the required range of facet angles. Note that in general, crown and pavilion facets can be treated independently with different values of reference angle and  $\Delta$  for each.