

(Hendry and Kenley, 1979). This will offset some of the seasonal dependence in net PAN formation rate due to photochemical reactions alone, but quantitative conclusions are not possible at present.

Table 7 summarizes the published data on wet and dry deposition rates that we are aware of. Also shown are some of the chemical transformation rates that have been measured in field experiments.

## 5. Conclusions

A literature survey has been carried out into the seasonal variations of the wet and dry deposition rate, as well as the chemical transformation rate, of sulfur and nitrogen oxides, with particular reference to deposition and transformation parameters of relevance to long-range transport mathematical models. Both relevant theoretical and experimental results have been considered, although a critical evaluation of the references has not been attempted.

As indicated in Chapters 2, 3, and 4, from a theoretical viewpoint, the deposition and transformation rates of sulfur and nitrogen compounds could potentially have a substantial seasonal variation. However, it is difficult to draw conclusions about the magnitude of this variation with any degree of confidence from the current theories, with the possible exception of the wet and dry deposition of sulfur dioxide and the photochemical component of its chemical transformation rate. Therefore, the available field data were also considered, although these were often too scanty to be of much assistance.

An attempt is made in Table 8 to summarize the available information on the seasonal variation of transformation/deposition rates for the sulfur compounds. It is not intended to recommend the values shown in this table for use by the long-range transport modeller--much more experimental and theoretical work is needed before this will be possible--but, rather, to indicate whether seasonal changes in the parameter of interest are expected to be greater or less than an order of magnitude (at present, little more than this can be done). The following conclusions can be made on the basis of Table 8 and the discussions in Chapters 2 to 4: