

Atmospheric Ion Chemistry

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A brief review of atmospheric ion chemistry downward of the F-layer at about 250 km altitude is first given. The behavior of ions above 75 km is now understood reasonably well. At lower altitudes the reaction mechanisms are dominated by cluster ions. Most of the present knowledge concerning cluster ions derives from laboratory studies. An apparatus appropriate for this purpose is then described. It uses two quadrupole filters, one for the selection of primary ions, the second for the analysis of product ions emerging from a reaction chamber. Results for selected reactions involving N_4^+ and O_4^+ ions are presented and discussed.

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