

# **Analysis of Dispersion and Damping of Ion Waves in Plasma**

A.-A. Turkey

Physics Department Faculty of Science Assiut University, Assiut, Egypt

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Experimental results are presented on the dispersion and damping of ion waves having a frequency range extending up to the ion plasma frequency. It was found that the Landau damping rate increases exponentially when the frequency of the ion wave approaches the ion plasma frequency; while its phase velocity decreases slightly. The experimental results agree reasonably with previous theoretical predictions. The study indicates significant changes in Landau damping even with small variations in the wave velocity.

Reprint requests to Dr. A.-A. Turkey. Fax: +2088 333837