

MHD waves in the Magnetosphere: a Historical Review

David Southwood

ESA HQ, Paris, France and Imperial College, London, England

A review is presented of the basic physical ideas concerning MHD waves that caused problems and controversy in predicting the behaviour of MHD waves in the early years of magnetospheric exploration. Even in the sixties, many ideas were current that now form the basis of much modern understanding. However basic ideas were often controversial. The idea of field line resonances was certainly so. So, in some circles was the idea that electromagnetic signals could be generated by hot particle interactions. This had to confront a dogma that electrostatic signals were preferred energetically (actually true only in very low β situations). The evolution of some of the ideas will be discussed in a manner, hopefully, light-hearted and confident, something not always possible all those years ago.