Analysis of f_D0 resonance for top side sounder experiments of the ISIS II satellite

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After discovery of the sequence of diffuse resonance f_Dn (n=1,2,..)[Oya 1970,1971], it has current been interested in whether n=0 case of f_Dn would exist or not. In previos study, the identification of f_D0 has carried out by the active experiments of PWS on board the Akebono satellite.

In this study, further analysis have been made by using ISIS II data. The results show that f_D0 resonance phenomena had also been included in ISIS II data and three fine structures indicating. f_Dn (n>0) resonance, that is, nonlinear wave particle interaction with fc,2fc,and 3fc(fc is the cyclotron frequency). The 3fc resonance is newly found evidence that give further confirmation for the non-linear wave-particle reaction processes to generate the sequence of diffuse resonance.