



Solar cycle variations of plasmaspheric plasma parameters based on FLR type geomagnetic pulsation characteristics

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A procedure has been developed, by means of which plasma parameters can be obtained on the basis of simultaneous application of the power law form of field line distribution of plasma density and the period of FLR type geomagnetic pulsations. FLR period has been established using earth (telluric) current records. The method is based on a relation between FLR period and plasma density in an Earth centered dipole magnetic field, since due to location of the Observatory Nagycenk ($47^{\circ}38'N$, $16^{\circ}43'E$ and $L = 1.9$) dipole field approximation can be used. Period data refer to the interval 1960-1973. On the one hand, the power law form of the field line distribution of plasma density is used for determination of the FLR period. On the other hand, the observed FLR period is applied for establishment of the field line distribution of plasma density. If the field line distribution of plasma density is determined, other plasma parameters as electron density and atomic mass can be established. As a result of these calculations, the solar cycle variations of plasmaspheric plasma parameters can be determined.