## Estimate of triplet frequencies in the first mode Schumann resonance

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The average frequency of the first mode Schumann resonance is ~7.8 Hz. The first mode presents in reality a triplet. If the Earth-ionosphere cavity were horizontally homogeneous the three frequencies would be equal. The day-night ionospheric asymmetry as well as the auroral ionization enhancement lead to the frequency splitting. The splitting is difficult to reveal because damping masks it. We calculate the splitting from the diurnal variation of the first mode Schumann frequency using a simple resonance field model. The total magnetic field of the resonance is supposed to consist of three axially symmetric fields, each of the fields oscillating with a constant frequency. The orthogonal axes of symmetry are fixed in the solar-geographic coordinate system. One of the axes is directed sunward. The other axis is close to the Earth rotation axis. The third axis is perpendicular to the two ones. The summary field has rather complex polarization. Its effective frequency being a combination of the triplet frequencies is a function of the solar-geographic coordinates, i.e. the latitude and local time. There is no dependence on the universal time in the simple model. When an observatory rotates together with the Earth, it registers the effective frequency varying with the local time, the variation being different in the H (north-south) and D (east-west) components. Observations at Kola and Kamchatka peninsulas were utilized for calculations of the triplet frequencies. The following values have been obtained for five quiet summer days: 7.75, 7.84, and 8.10 Hz. The model calculations of diurnal variation of the effective frequency coincide very well with the observation results at the both observatories. One of predictions of our model is that the D component at the Earth equator has no diurnal variation.