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Copies obtainable from NASA, Washington

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6, Astronomy; 7, Astro-
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PERTURBATIONS OF ORBITS OF ARTIFICIAL
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Presentation of a general form of the first-order per-
turbations in the elements of an elliptic satellite orbit,
caused by the resistance of the air, is undertaken.
It was assumed that the earth's atmosphere has a fully
spherical density distribution and that the attraction of
the earth can be replaced by the attraction of the
material point, placed at its center of inertia and
having the same mass as the earth. These assump-
tions, along with the secular perturbations, are used
to obtain faster perturbations whose periods do not
exceed the period of one rotation of the satellite.

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DESCRIPTORS: *Gases, *Ions, *Refraction, *Electrons,
Polarization, *Perturbation theory, Special functions

The assumption was expressed that the screening con-
stants for the 3d- and 4d-electron shells calculated by
the Slater rules are overestimated by the value of the
outer screening. Using this assumption, the ionic re-
fractions of all elements of the "b" subgroups calculated
by a method of the perturbation theory were in good
agreement with the experiment. For the first time
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