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## Research Details :

Research Title	: <u><i>Air drag effect on the motion of an artificial earth satellite</i></u> <u><i>Air drag effect on the motion of an artificial earth satellite</i></u>
Descriptipn	: Two methods have been used to compute and compare the perturbations in perigee distance for an artificial Earth satellite. The two methods have used different air density models. The first (Helali, 1987) used the TD model, formulated by Sehnel(1986a), which contains terms that describe all the principal changes of the thermospheric density due to solar activity, geomagnetic activity, and the height. The second method (Davis, 1963) used a model of the density which takes into account the rotation of the atmosphere, the bulging atmosphere and the height. For different values of eccentricities from 0.001 to 0.05 we computed the perturbations Delta P-r in the perigee distance at different heights from 200 to 350 km for both methods. The results show a good agreement for the computed values of Delta P-r for different values of e ( $0 < e \leq 0.02$ ) in both methods at perigee heights from 250 to 350 km. Meanwhile, for perigee heights smaller than about 250 km we found a maximum difference in Delta P-r amounting to 20 metres/revolution for e = 0.005 and 0.01.
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