

地球惑星科学専攻 地球科学輻合部特別講演会

Eckart's conjecture: Theory of inertio-gravity waves without the
'traditional approximation' (日本語で講演の予定)

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要旨 :

The 'traditional approximation (TA)' neglects the horizontal component of the Coriolis force in the equations of motion of geophysical fluids. The search of a missing physics in the TA, which was initiated by Eckart (1960) who made a conjecture, has been sporadic in the past. Renewed interest in the nature of missing physics revived in the last ten years because of the need to improving the current dynamical models of atmosphere and ocean. After a brief historical review, I will summarize recent findings on the nature of the missing physics which indicate that the classical theory of inertio-gravity waves is incomplete. As a specific example that exhibits the importance of the non-traditional Coriolis force, I will present remarkable results from our recent numerical experiments which may resolve some long-standing oceanographic questions. The same reasoning that the non-traditional Coriolis force plays an important role in the oceanic processes is valid in the atmosphere. Search is underway to identify what are the atmospheric phenomena affected by the TA.

2008年11月5日(水曜日)13時00分~14時30分
理学研究科4号館 地下共同会議室

問い合わせ先: 余田 成男