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加速度迁移项散度在涡旋系统动力识别上的初步应用

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The effect of the divergence of relocation term in acceleration and its application to the dynamic identification of vortex system

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摘要 本文从原始三维运动方程出发,考虑了大气平流变化的特性,引入加速度迁移项散度,并将其应用于2008年"凤凰"台风和2003年梅雨期引起暴雨的东移低涡中进行分析,结果表明,加速度迁移项散度能较好地识别和示踪台风中心及台风外围云墙,同时也能很好地捕捉沿梅雨锋东移的低涡系统.因此,加速度迁移项散度在涡旋系统动力识别方面有很好的应用价值,可以参考其异常区来示踪涡旋系统的移动.

关键词: 加速度迁移项散度　台风　梅雨期低涡

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Abstract： On the basis of primitive 3-dimension momentum equation, considering the feature of atmospheric advection effect, we introduce the divergence of relocation term in acceleration and apply it to FUNG-WONG typhoon (2008) and a moving southwest vortex in Meiyu front (2003). The results show that the eye and eyewall of FUNG-WONG typhoon can be well identified and traced by the effect of the divergence of relocation term in acceleration; the moving southwest vortex can also be seized by the new variable. Thus, the effect of the divergence of relocation term in acceleration would be very important in the dynamic identification of vortex system and can be used widely in the future.

Keywords： The divergence of relocation term in acceleration　Typhoon　Vortex in Meiyu period

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