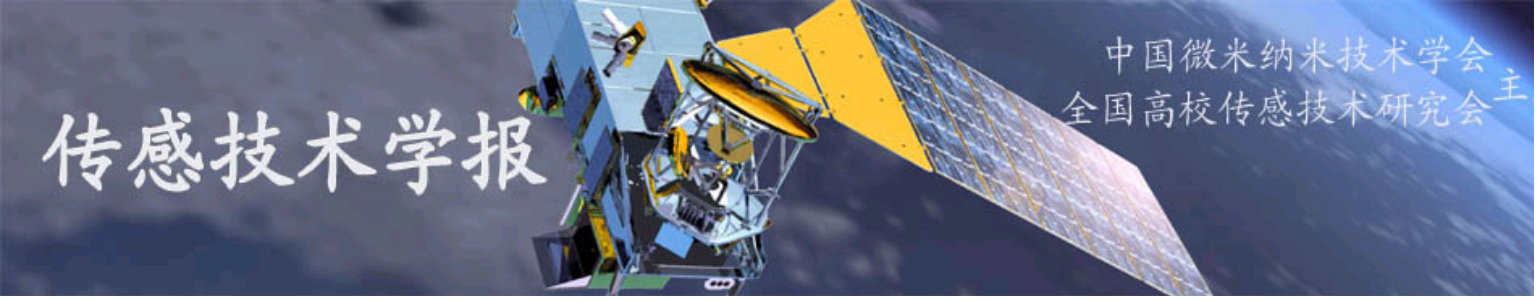

基于非惯性运动状态的气象无人机测风方法研究

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摘　要：

针对气象无人机必须匀速直线飞行探测的条件限制，在气象无人机加速平动的状态下，通过引入等效压力，利用能量守恒定律，得出了非惯性运动状态的伯努程，建立了气象无人机非惯性运动状态的空速模型，并对非惯性运动状态空速模型的合理性进行了分析，最后进行了仿真实验。结果表明：当气象无人机处于平动状态时，本文所提出的气象无人机非惯性运动状态空速模型具有一定的实用价值。

关键词：气象无人机；空速模型；合理性分析；非惯性运动；等效压力；仿真实验

Based on the Non-inertial Motion State Meteorological UAV Wind Method

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Abstract:

For meteorological UAV flight must be uniform linear detection conditions, meteorological UAV in accelerating the translation of the state, with the introduction of equiv stress, use the law of conservation of energy, concluded that the non-inertial motion state of the Bernoulli equation, established meteorological UAV non-inertial motion of airspeed model, and analysed of the non-inertial motion state airspeed model of rationality, finally, the simulation experimented. Results indicated that: when the meteorological UAV in accelerating the translation of the state, meteorological UAV in non-inertial motions State airspeed model has a practical value.

Keywords: Meteorological UAV; airspeed model; analysis of rationality; non-inertial motion; equivalent stress; simulation experiment

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