

ON THE DESIGN OF THE ATMOSPHERIC MODEL

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Abstract

Several principles for designing the atmospheric model are suggested, namely, inclusion of the physical factors and physical mechanisms which can restrict the related atmospheric processes to possibly achieve the aim of the design; reasonable overall properties; stable and accurate computation; appropriate grid, resolution and computational domain and the various parts of the model being consistent. Also discussions are made for them respectively.

Finally, special stress is put on the consistency between the design aim and the model, and the relative importances between factors and physical processes incorporated in the models with different forecast periods are discussed in detail.

Key words: Model design, Overall property, Physical process, Consistency.

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1999年9月25日,由中国科技部、国家自然科学基金委员会和中国气象局联合在北京举行了中国四大气象科学试验即南海季风试验研究、青藏高原地-气系统物理过程及其对全球气候和中国灾害性天气影响的观测和理论研究、海峡两岸及邻近地区暴雨中尺度试验和淮河流域能量和水分循环试验阶段性成果新闻发布会。中国气象局局长温克刚、国家科技部基础研究司邵立勤副司长、国家自然科学基金会地学部林海主任等分别在会上致辞,对四大气象科学试验取得丰硕成果表示祝贺。四大试验首席科学家丁一汇、陈联寿、赵柏林及首席科学家助理徐宝祥分别对四大试验所取得的阶段性成果进行了总结汇报,还就新闻记者所感兴趣的问题作了进一步回答。

这次联合大气科学试验是我国历史上,以中国为主体进行的最大规模的一次大气-海洋-水文综合试验,通过对试验加密观测资料的初步分析,发现了一批观测事实,得到了一些重要的试验结果。为弄清整个亚洲季风区域以及全球大气能量和水分循环变化的规律与特征,不断提高中国重大灾害性天气气候预报准确率和服务水平,打下了坚实的基础。

(王祥国)