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一次超级单体风暴中龙卷的天气过程分析及龙卷强

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Title: Weather analysis and grade determination of a tornado occurring in a single super-storm

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关键词: [超级单体风暴](#); [卫星云图](#); [雷达回波](#); [龙卷强度](#)

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摘要: 对2008年5月23日发生在哈尔滨中南部的一次超级单体风暴中龙卷天气过程的天气形势、卫星云图、雷达回波进行了综合分析.研究表明:此次灾害性强风暴是一次龙卷过程;龙卷的出现与高空风场的分布及大气稳定度密不可分;龙卷母云的形状及性质与冰雹云相近,其发生发展与低空急流密切相关;龙卷出现在超级单体风暴的“V”型缺口附近,多普勒速度场上伴有强中气旋.文中还利用多普勒雷达产品中气旋的最大流入流出速度计算了中气旋强度,并结合现场勘查及灾情信息,对龙卷强度等级进行了判定.

Abstract: Based on the com prehensive analysis of the satellite images, radar echoes and the weather background, the features of the tornado in the single super-storm on May 23, 2008 in south-central Harbin are analyzed.The strong storm disaster is a process of Tornado closely re lated with the low-level jet.The tornado appeared in near the single super-storm "V" notch and strong cyclone is found on Doppler velocity field.By outflow velocity and in flow velocity, the grades of the mesocyclone are calculated.Combining with site investigation of the disaster, the grade of the tornado is determined as F2 to F3.

参考文献/REFERENCES

- [1] 张培昌,杜秉玉,戴铁丕.雷达气象学[M].北京:气象出版社,2001:397.
- [2] 孔燕燕,沈建国,强雷暴预报[M].北京:气象出版社,2001:142.

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- [3] 俞小鼎,郑媛媛,张爱民,等.安徽一次强烈龙卷的多普勒雷达分析[J].高原气象,2006,25(5):914-923.
- [4] 邵玲玲,黄宁立,邬锐,等.一次强飚线天气过程分析和龙卷强度级别判定[J].气象科学,2006,26(6):627-632.
- [5] MacGoman D.R.,Nielsen K.E.Cloud-to-ground lightning in a tornadic storms on 8 May 1986[J].Mon Wea Rev,1991,119(7):1,557-1,574.
- [6] Johns R H,Doswell C A.Severe local storms forecasting[J].Wea.Forecasting,1992,7,604-605.
- [7] 张晰莹,方丽娟,景学义,等.黑龙江省产生冰雹的卫星云图特征[J].南京气象学院学报,2006,27(1):106-112.
- [8] 俞小鼎.多普勒天气雷达原理与业务应用[M].北京:气象出版社,2005.
- [9] 邵玲玲.中气旋在强风预报中的应用[J].气象,2005,31(9):34-38.
- [10] 俞小鼎,姚秀萍,熊廷南,等.多普勒天气雷达原理与业务应用[M].北京:气象出版社,2006.
- [11] Doswell C A.An overview.Severe convective storms[J].Meteor Monogr,2001,50:1-26.
- [12] Brown L R Lemon,D W Burgess.Tornado detection by pulsed Doppler radar[J].Mon Wea Rev,1978,106:29-38.

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