



徐家浦测风塔各测风高度平均湍流强度随高度的增加而减小，但变化范围不大，从 0.18 到 0.10，湍流强度属于中等偏弱程度。

2.5 代表年风能资源

统计慈溪地面气象观测站 2004 年 9 月~2005 年 8 月一整年同期平均风速为 2.7m/s，近 5 年平均风速为 2.6m/s，1971~1991 年平均风速为 2.7m/s，1992~2004 年平均风速为 2.5m/s，1971~2004 年平均风速为 2.6m/s。从气象站多年风速变化情况看，2000 年以后气象站风速有快速下降趋势，估计是因为城市发展影响气象站下垫面所致，综合考虑今年浙江沿海风资源情况，及考虑到海涂围垦后下垫面变粗糙，风电场风速将减少。

综合上所述，慈溪风电场采用 2004 年 9 月~2005 年 8 月一整年作为代表年计算，不考虑修正。

分析徐家浦测风塔代表年 2004 年 9 月~2005 年 8 月一整年测风资料，并按照风切变系数推算至 65m 高度，并计算各种风能要素成果见表 2-5~2-6，各种风况图见图 2-4~图 2-11。

由表 2-5 可知，徐家浦测风塔位置年主导风向为 E 和 W，与最大风能方向一致，2005 年 8 月份受台风影响次数较多，该月风功率密度达到 $606.8W/m^2$ ，1 月及 11 月风功率密度为最小，仅 $230W/m^2$ 左右，从全年看，除受台风影响较大月份风功率密度明显大于其他月份，各月风速风能比较均匀，全年平均有效风功率密度为

2.5 The wind resource of the representing year

From the statistical data measured by Cixi meteorological station, the wind speed from Sep 2004 to Aug 2005 is 2.7m/s, the average wind speed of the recent 5 years is 2.6m/s, the average wind speed from 1971-1991 is 2.7m/s, the average wind speed from 1992 to 2004 is 2.5m/s, the average wind speed from 1971 to 2004 is 2.6m/s. As per the wind speed of many years, the wind speed after year 2000 has the tendency of decreasing. It's possible because of the city development. Taking into account the condition of the coastal wind resource of Zhejiang province, and the inning of the tidal flats, the wind speed will be decreased.

Therefore, the whole year from September 2004 to august 2005 can be regarded as the representative year of Zhejiang Cixi wind farm for calculation, without adjustments and corrections.

The wind data of the representing year from September 2004 to august 2005 measured by Xujiapu anemometer tower was analyzed. Then the wind speed on 65m height was deduced according to the wind shear exponent. The wind elements were calculated, shown in Table 2-5 and 2-6. Different wind conditions were shown in Figure2-4 to Figure2-11.