

Measurement of power coefficient on a 1.5 KW three bladed horizontal axis wind turbine for indigenous development of micro wind turbines in Pakistan

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1.5 KW horizontal axis wind turbine was designed and tested at UET Peshawar, Pakistan. To calculate the power coefficient, a measurement campaign was done to collect the data and calculation was done using Method of Bins. The dependence of power coefficient on the tip speed ratio was observed at various wind speeds by rotating the turbine at constant rotational speeds. The power coefficient peaked at 0.316 at a tip speed ratio of 4.63.