

EXPERIMENTAL INVESTIGATION OF HORIZONTAL AXIS WIND TURBINE USING NOZZLE SYSTEM

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Abstract

Nozzle design techniques are certainly areas of interest in achieving better design criteria. Present work gives a best solution for the problems like increasing the power output of a particular wind turbine and decreasing the wear and tear (due to rain and sand erosion) of the body parts of wind mill, hence reducing the maintenance costs. In getting an optimized solution for the problem that is to increase the power output of a wind turbine, we need to design a nozzle particularly a convergent nozzle to step-up the velocity of ambient air, that is about to reach the rotor. An assembly of outer nozzle is fabricated and fixed to wind tunnel for experimentation in the laboratory. The angle of attack, theoretical power coefficient of laboratory model wind mill with nozzle assembly are determined as part of study.

Keywords : Angle of attack, Theoretical Power Coefficient

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