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Wind Sensor

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ABSTRACT

Wind measurement is needed in many practical and scientific research situations. Some specific applications require to precisely measuring both wind direction and wind speed at the same time. Current commercial sensors for wind direction and wind speed measurement usually use ultrasonic technology and the sensors are very expensive (> \$1500). In addition, the sensors are large in dimension and cannot measure airflow patterns in high spatial resolution. Therefore new and low cost wind speed and direction sensors that can satisfy the specific requirements are needed. This research project will develop a low cost and compact anemometer to measure the wind speed as well as three dimensional wind directions. Four prototypes are built and tested with a better improvement on each prototype. Data are collected by using LabVIEW and analyzed by using Matlab and Excel. The last prototype is tested successfully to verify the concepts that we would expect and qualitatively analyzed. Some improvements can be implemented to this wind sensor for commercial usage.

KEYWORDS

Wind sensor

REFERENCES

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