

## Weather kite gets second wind

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The red kite is now a commonly-seen bird of prey in the skies of the south-east, but a specially designed artificial blue kite promises a new way to make weather measurements.

Writing in the *Review of Scientific Instruments*, scientists at the University of Reading's Department of Meteorology describe a high-tech kite developed to measure wind speed. Kites have long been used to transport instruments up into the lower atmosphere, but rather than just offering a convenient "sky hook", the new approach uses the kite itself to detect the wind variations.

The <u>wind</u> speed varies the kite line's tension, which can be measured conveniently at the ground, rather than by carrying a sensor up on the



kite aloft.

Kieran Walesby, who developed the instrumentation as part of his postgraduate research work at Reading, said: "This technique allows <u>wind speeds</u> above the ground to be measured without the need for a fixed instrument tower, and is therefore very portable."

The kite used in these experiments was specially built in the Department of Meteorology, and was combined with a tension-measuring system optimised to overcome <u>temperature variations</u> during long kite flights. The kite line tension is found by measuring the small distortions generated on a metal ring used to anchor the kite, using a set of miniature strain gauges.

Professor Giles Harrison, Professor of <u>Atmospheric Physics</u> who supervised the work, said: "Benjamin Franklin's 1752 experiment is a famous early example of using a kite to measure atmospheric properties. Our system reasserts the kite's value in <u>atmospheric science</u>, through offering an easily-implemented method for investigating lower atmosphere air flows, such as those which transport pollution."

Provided by University of Reading

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