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**Development of a computer controlled
point measurement system for wind tunnel
investigations of pedestrian level winds.**

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Abstract.

The computer controlled Traversing Rig has been improved by adding a software routine allowing the user to make the height above the ground sure while measuring. A new probe holder has been designed to fit the requirements of this new feature.

The system has proved to be reliable by running a similar test to (McCardle 2008) and (Stubbling 2008). Four angles (a total of 16 hours of test and 800 points measured) have been tested around a simple geometry. The probe, well known for its weakness, has not been broken during these tests.

The disruption of the Hot Wire calibration with time has been investigated. It has been shown that the Hot Wire calibration was disturbed of 0.01m/s every 33minutes. After 4 hours, the error has been found to be between 4 and 5%. A method is described to recalibrate the results. Thanks to this method, the error has been reduced to less than 1%.

Thanks to the collected results the velocity contours around the buildings have been drawn as well as the category maps based on (Flay 1991) criterion.

Therefore, the Traversing Rig has now proved to be a reliable and promising system one should consider to run some wind tunnel tests. In particular, it allows different approaches by measuring the time history.
