

a. The complete program of research and experimentation proposed including description of equipment and theory of operation.

As an extension of the NYC Urban Dispersion Program, we are using a Vaisala LAP-3000 wind profiler to measure the vertical profile of the wind speed and direction in an urban environment to continuously monitor atmospheric dispersion. The measurements from the radar wind profiler will be combined with measurements from building top conventional weather stations and building top sodar wind profilers.

b. The specific objectives sought to be accomplished.

The objective is to be able to predict the atmospheric dispersion characteristics in a complex environment, such as "urban canyons" by making measurements of the "skimming wind fields" that exist at vertical heights above the building tops and using these measurements as initial conditions in dispersion models.

c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated.

Using a radar wind profiler to make these measurements and combining these measurements with a large collection of other surface measurements has not been done in a continuous manner. We hope to extend the understanding of previous experiments that have used wind profilers in specific campaigns since these specific campaigns give insufficient justification of the models for all weather conditions.