



OOKA LAB. Energy and atmospheric environment control for future urban planning

Department of Human and Social Systems

http://venus.iis.u-tokyo.ac.jp

Urban Energy Engineering

Department of Architecture, Faculty of Engineering

Prediction of Urban Atm. Environment

Predicting systems for urban thermal and atmospheric environment has been developed to achieve sustainable urban space, focusing on transports of substances and energy in multiple scales from human-ambient to urban/regional.



■Numerical estimation of local climate using WRF (left: Typhoon No. 10, 2006; right: Heat island effect)



Wind velocity observation with a Doppler radar



Estimation of heat and momentum fluxes using a Scintillometer



■ Analysis of heat-island effect by anthropogenic



■LES on air pollutant dispersion



Measurement of air flow near

exhaust heat using CFD coupled with radiative analysis

with chemical reaction

buildings using PIV

Systems for realizing Zero Energy Building



■21KOMCEE (Komaba Campus)



ground thermal conductivity

In order to realize Zero Energy Building(ZEB), how to improve heat source system has been developed as a way to reduce energy consumption. For details, air-conditioning system with natural energy and optimizing operation of heat source system have been studied mainly.







Actual size model of MMHP



