

# A small, but versatile instrument for airborne research: MetAir's "DIMO" equipped in a co-operative effort with FZJ and PSI

## Dimona HK36 TTC ECO HB-2335

single engine / turbo charged / variable prop. / 2 seats  
wing span 16.5 m  
cruising speed 130-200 km/h  
ceiling height 4000 m (8000 with crew oxygen)  
total payload (crew+fuel+instruments) 320 kg  
endurance 4 to 5 h

1 pilot + 1 operator  
all data on display

Standard parameters:

Position, speed, and  
attitude

O<sub>3</sub>, NO<sub>2</sub>, NO<sub>x</sub>, NO<sub>y</sub>, HNO<sub>3</sub>, PAN, Ox, CO<sub>2</sub>,  
H<sub>2</sub>O (open and closed path IR),  
temperature, dewpoint, pressures,  
accelerations, 3-d-wind,  
optional: HCHO or H<sub>2</sub>O<sub>2</sub> +org.Perox.

Hydrocarbons (NMHC C<sub>4</sub>-C<sub>10</sub>) by  
online Chromatography,  
and CO by vacuum fluorescence,  
aerosol counter (>0.3 micrometer),  
optional: automatic air samples,  
or hyperspectral scanner + video.

Co-operation with PSI since 1990,  
and with FZJ since 1999

### In the fields of

- urban plumes / photosmog;
- mesoscale flow & pollution  
(e.g. in Alpine valleys);
- monitoring CO<sub>2</sub>;
- turbulence structure & fluxes;
- anthropogenic emissions;
- biogenic uptake;
- biogenic emissions;

### With project acronyms such as:

POLLUMET, TRACT, TRANSALP, SLOPE,  
EU-VOTALP, EU-ECOMONT, LOOP,  
BERLIOZ,  
MAP, ESQUIF, Etude Mont Blanc,  
Vertikator, ECHO, EU-FORMAT, COCA,  
AEROCARB/CarboEurope,

### with urban plume studies around:

Berlin, Bern, Freiburg, Geneva, Grenoble,  
Heilbronn, Milano, Paris, Vienna.