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# Integrated Profiling Technique (IPT):

*An advanced method to synergize Columnal  
Observations*

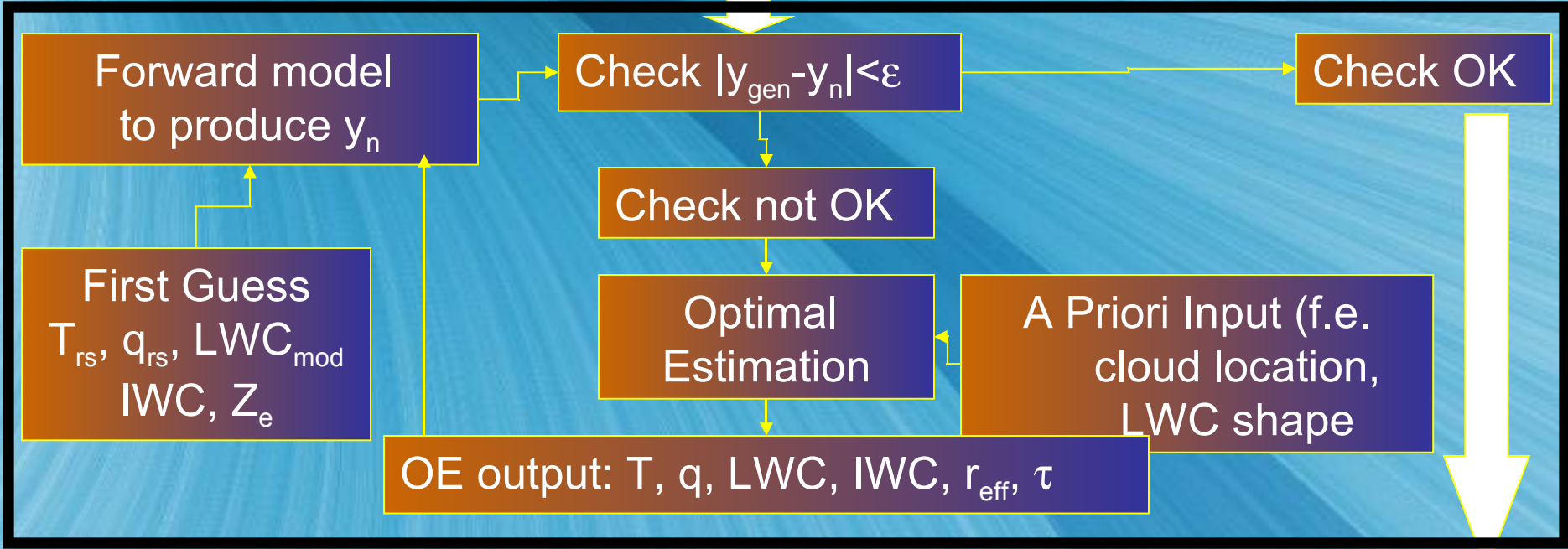
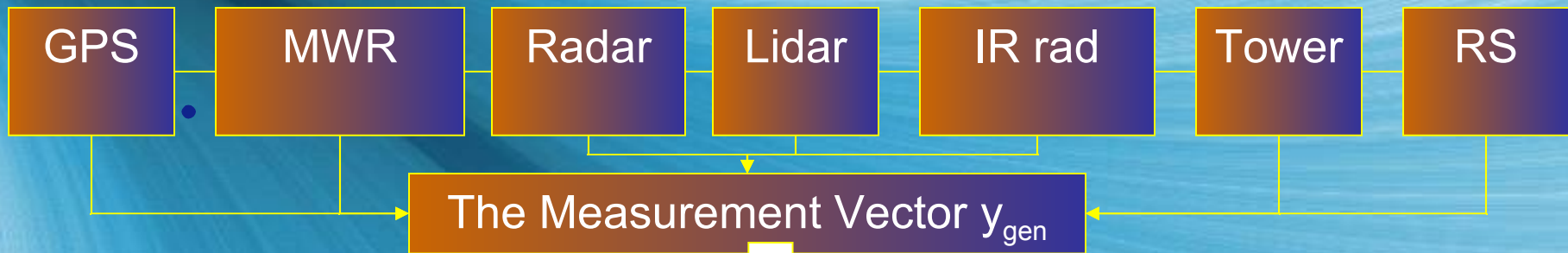
**to be used for**

**Climate Monitoring  
and Process Studies**

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# Quality Control

- Instrument 1 > Determine precision / accuracy
- Instrument 2 > Determine Precision / accuracy
- Big Question: Is the output from instrument 1 consistent with the output from instrument 2?
- Possible answer: Integration of instrumental output into one product
- [Is not the same as assimilation]



Direct Output:  $T, q, LWC, IWC, r_{eff}, \tau$

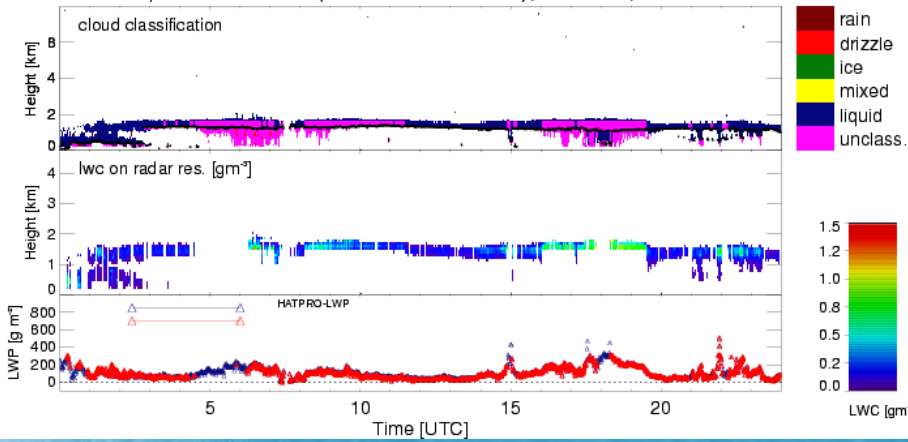
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Flow Chart for the complete IPT

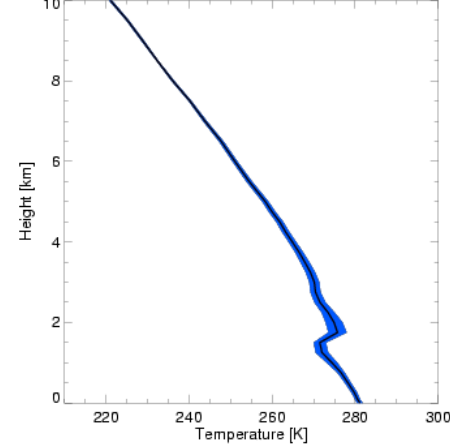
# IPT data 30 January 2007



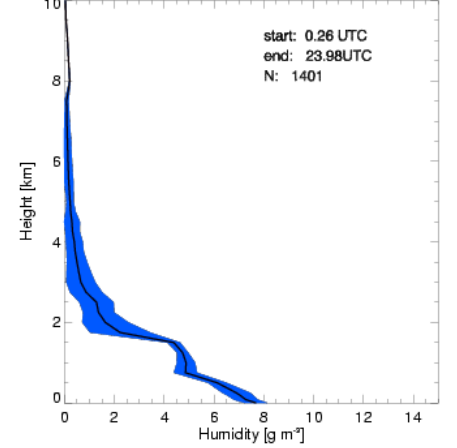
### Liquid clouds - IPT(KNMICR/HATPRO), Cabauw, 070130



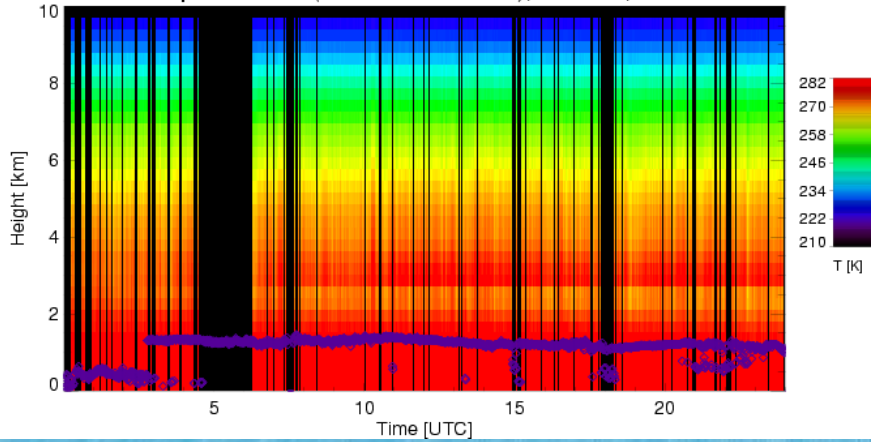
### T - IPT(KNMICR/HATPRO), Cabauw, 070130



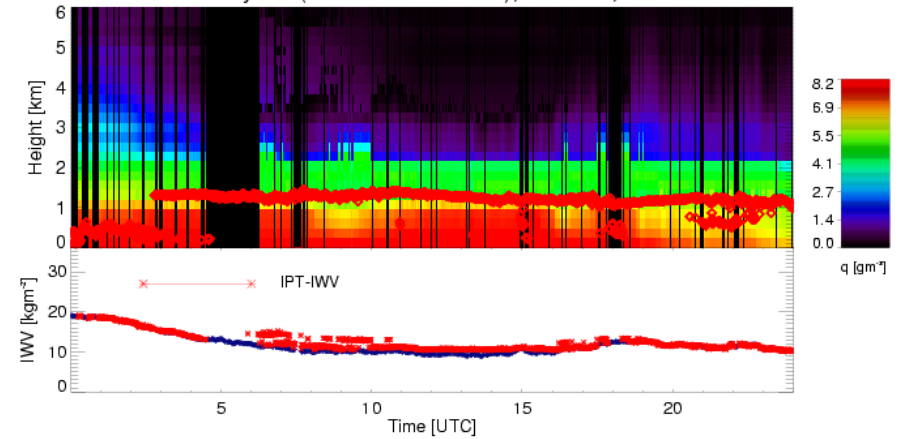
### q - IPT(KNMICR/HATPRO), Cabauw, 070130



### Temperature-IPT(KNMICR/HATPRO), Cabauw, 070130



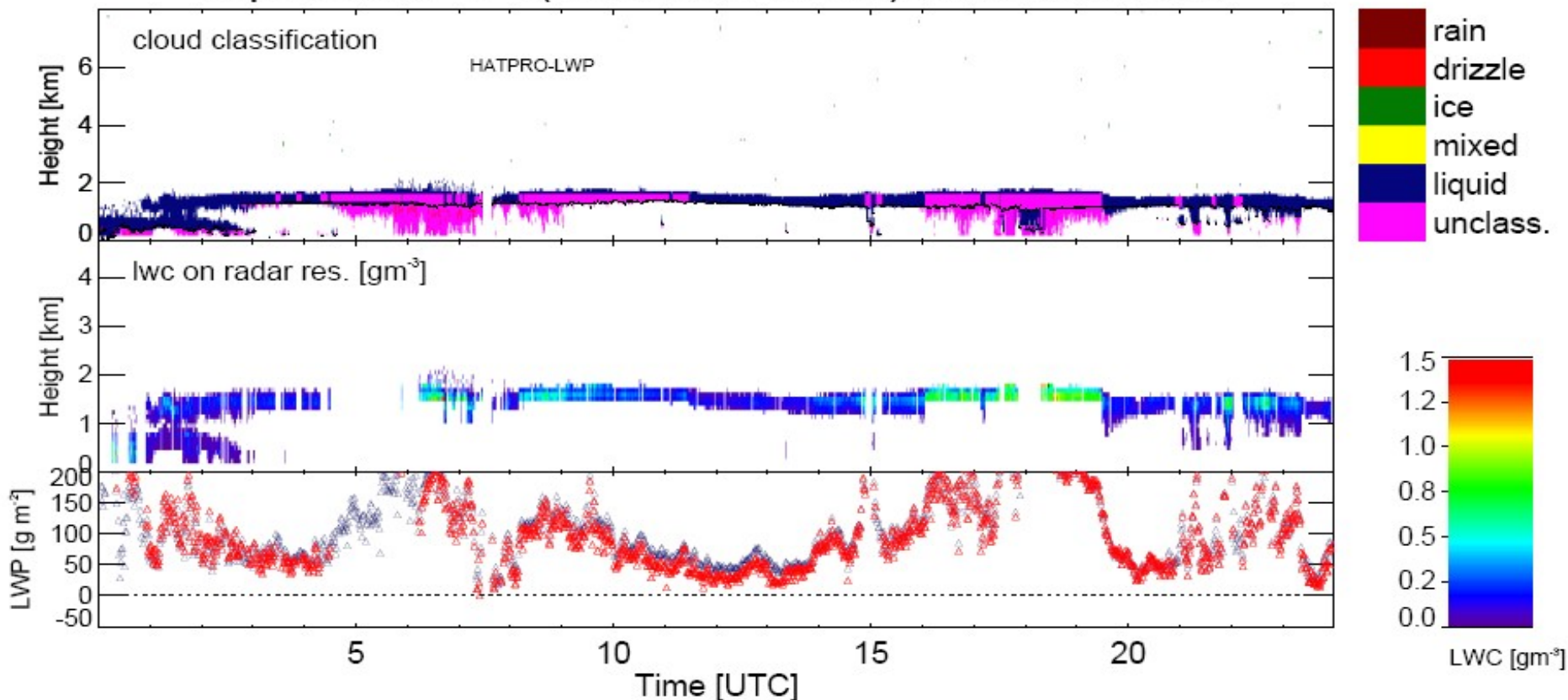
### Humidity-IPT(KNMICR/HATPRO), Cabauw, 070130



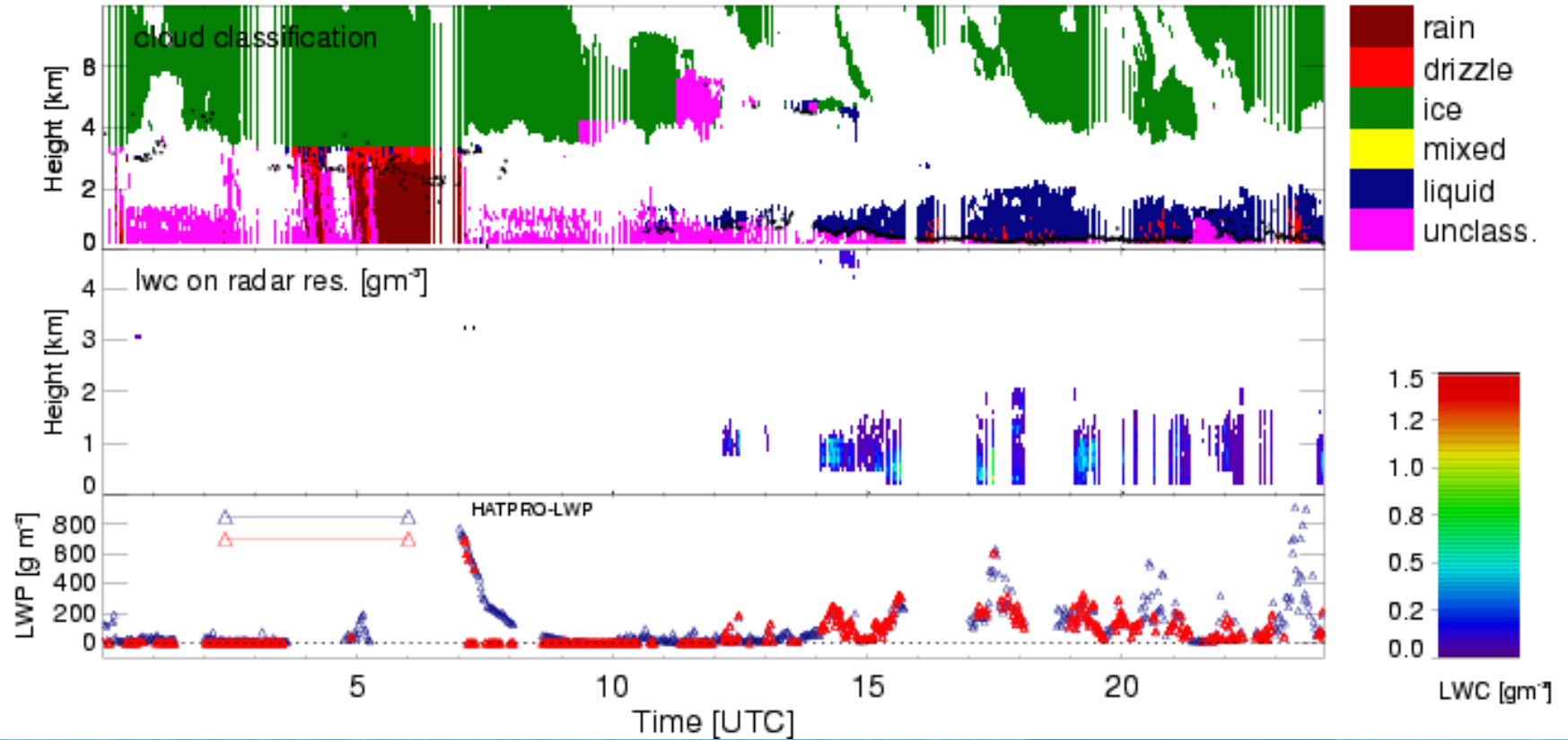
# Integrated Profiling of Cloud and Thermodynamic Properties



Liquid clouds - IPT(KNMICR/HATPRO), Cabauw, 070130



# Liquid clouds - IPT(KNMICR/HATPRO), Cabauw, 060925





## Advantages of IPT:

- Output from different instruments are combined into one self-consistent product
- Integration technique provides error characteristics of instrumental output

[can be compared against GCOS standards]





## Challenges for the Future:

- include radiative flux profiles [BSRN, satellite]
- include ice clouds
- a continuous set of consistent, calibrated data

