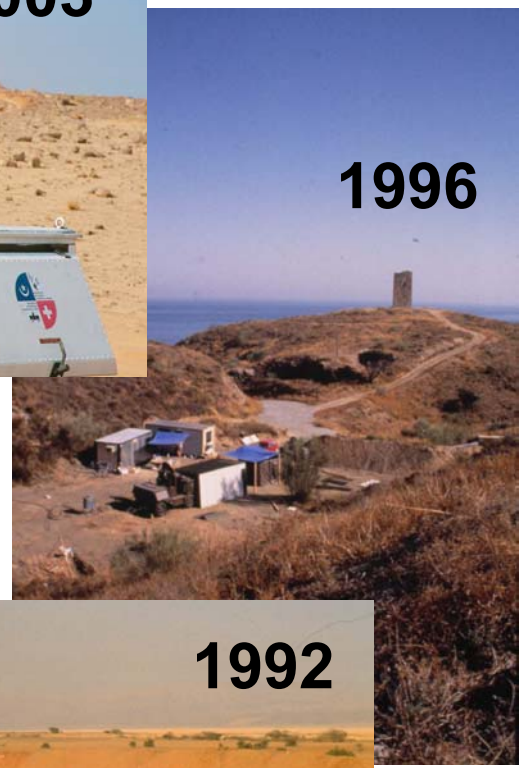
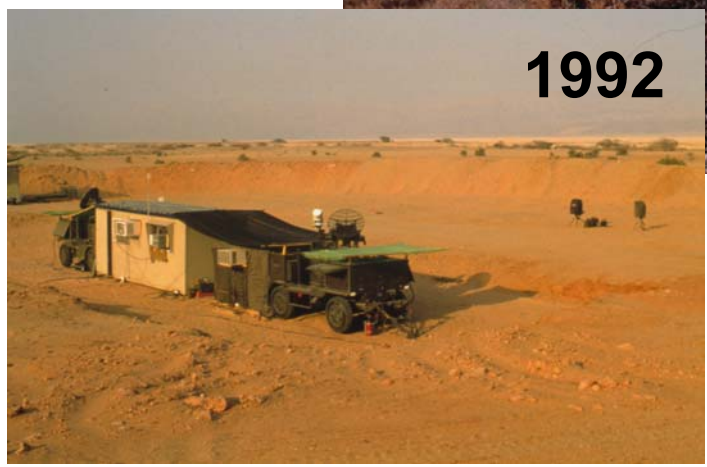
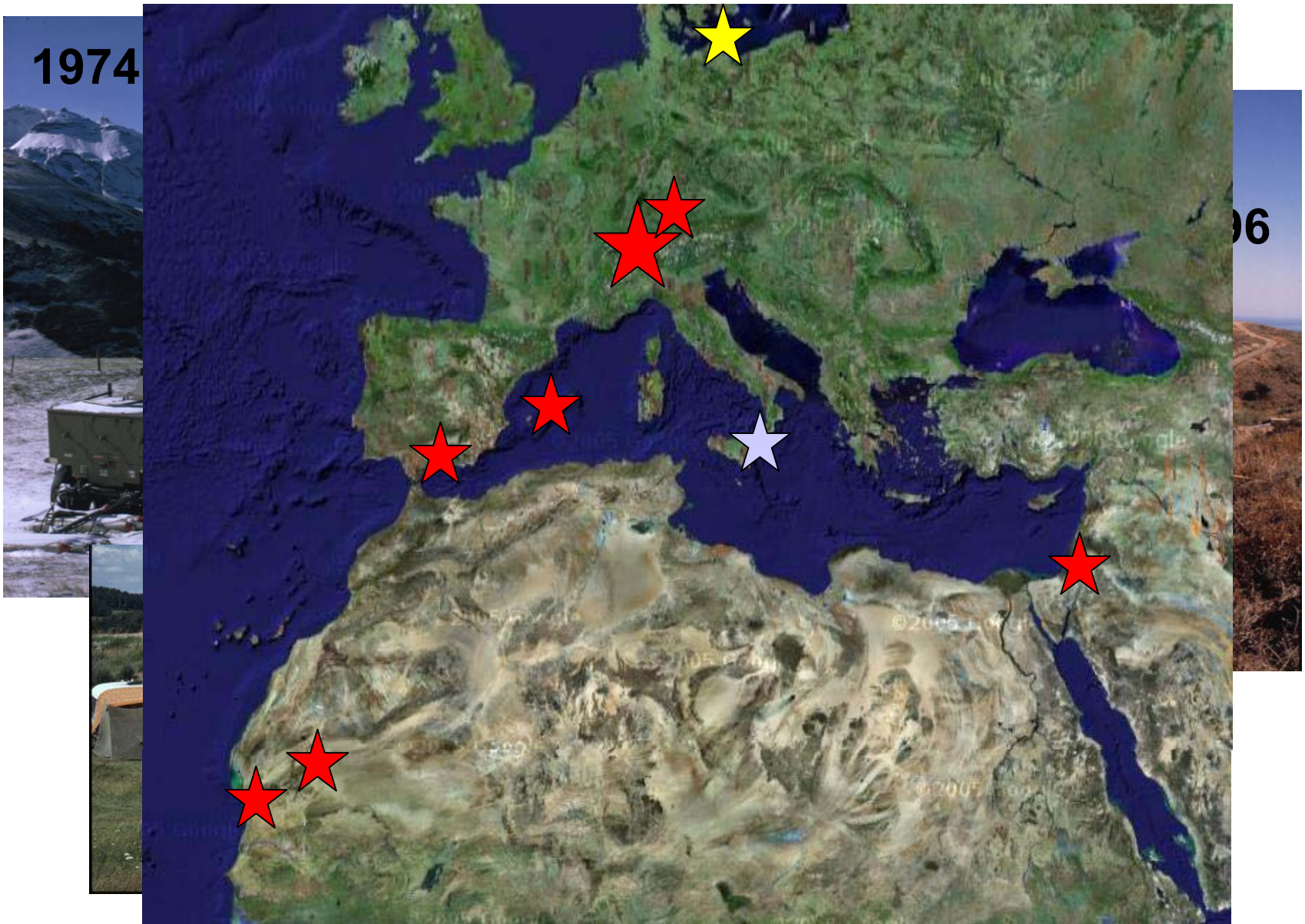
Past and Current efforts: study sites



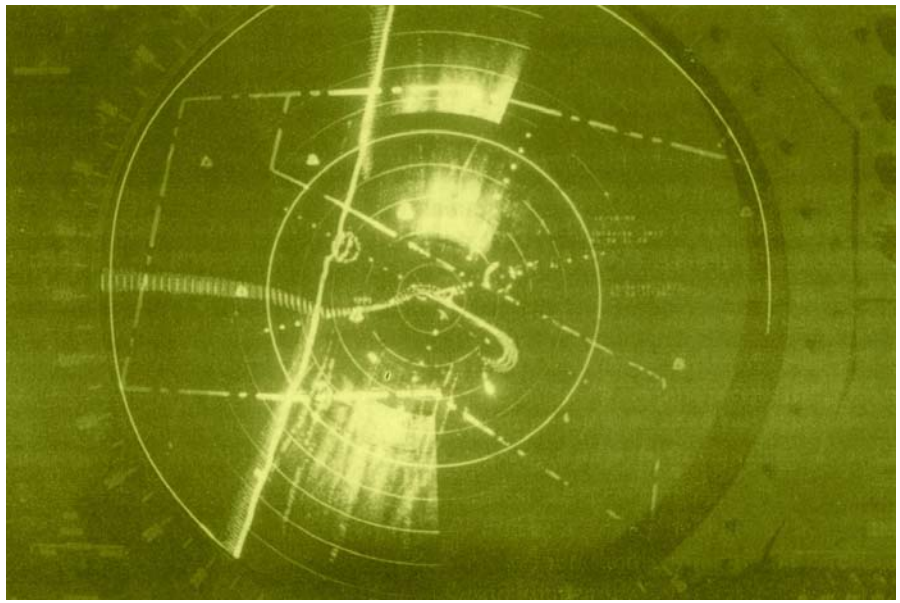


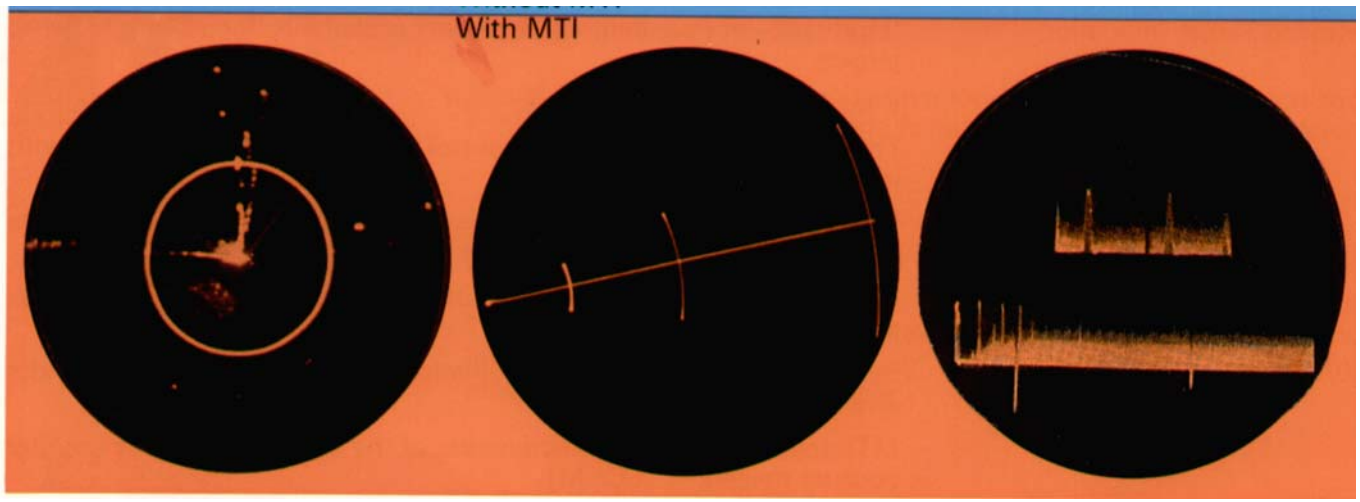
Past and Current efforts: study sites



Past and Current efforts: data recording

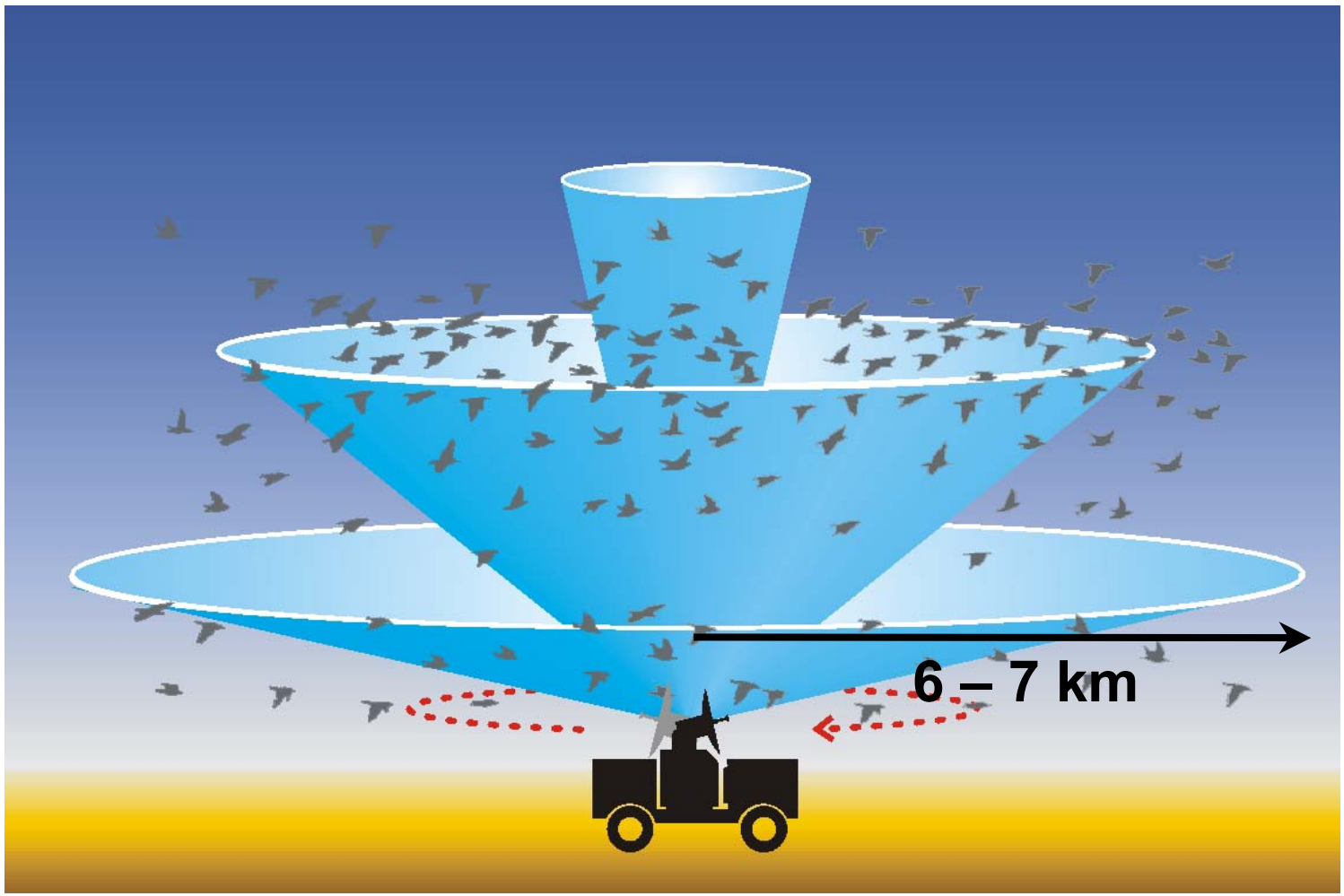
analog photo recording (time lapse)





Past and Current efforts: data recording

digital video sampling: conical scanning measurement



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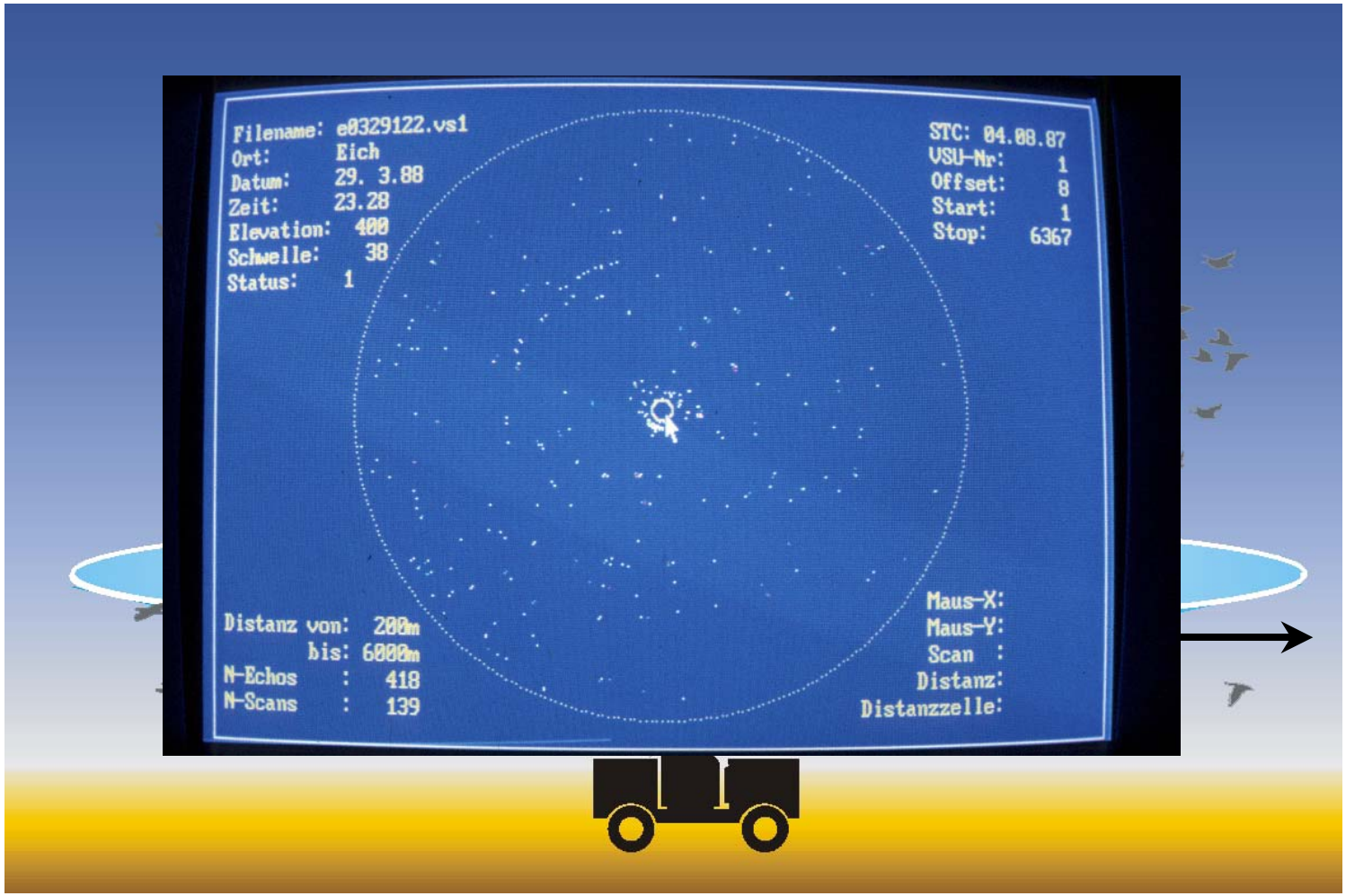
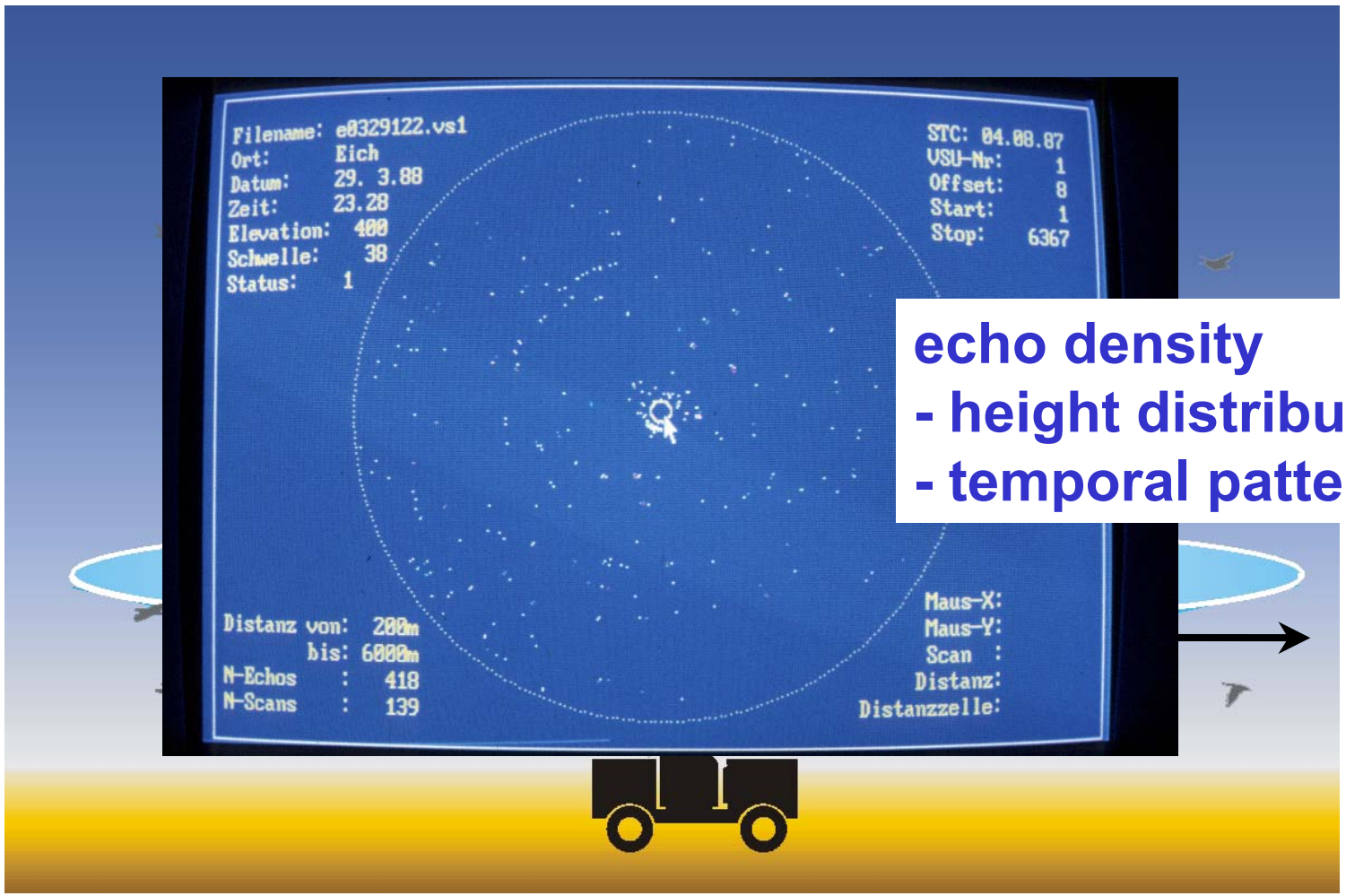
digital video sampling: conical scanning measurement



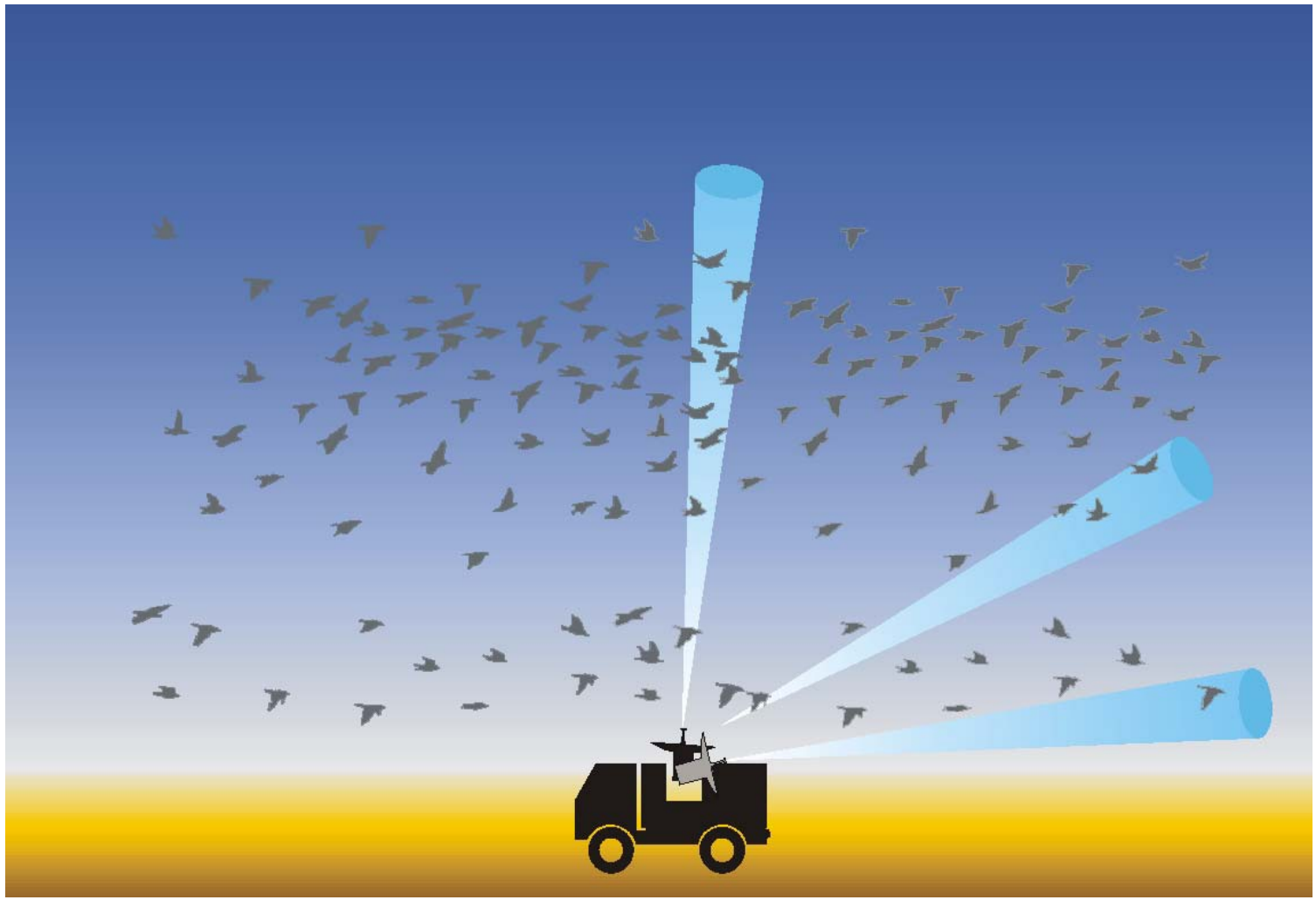
Past and Current efforts: data recording

digital video sampling: conical scanning measurement



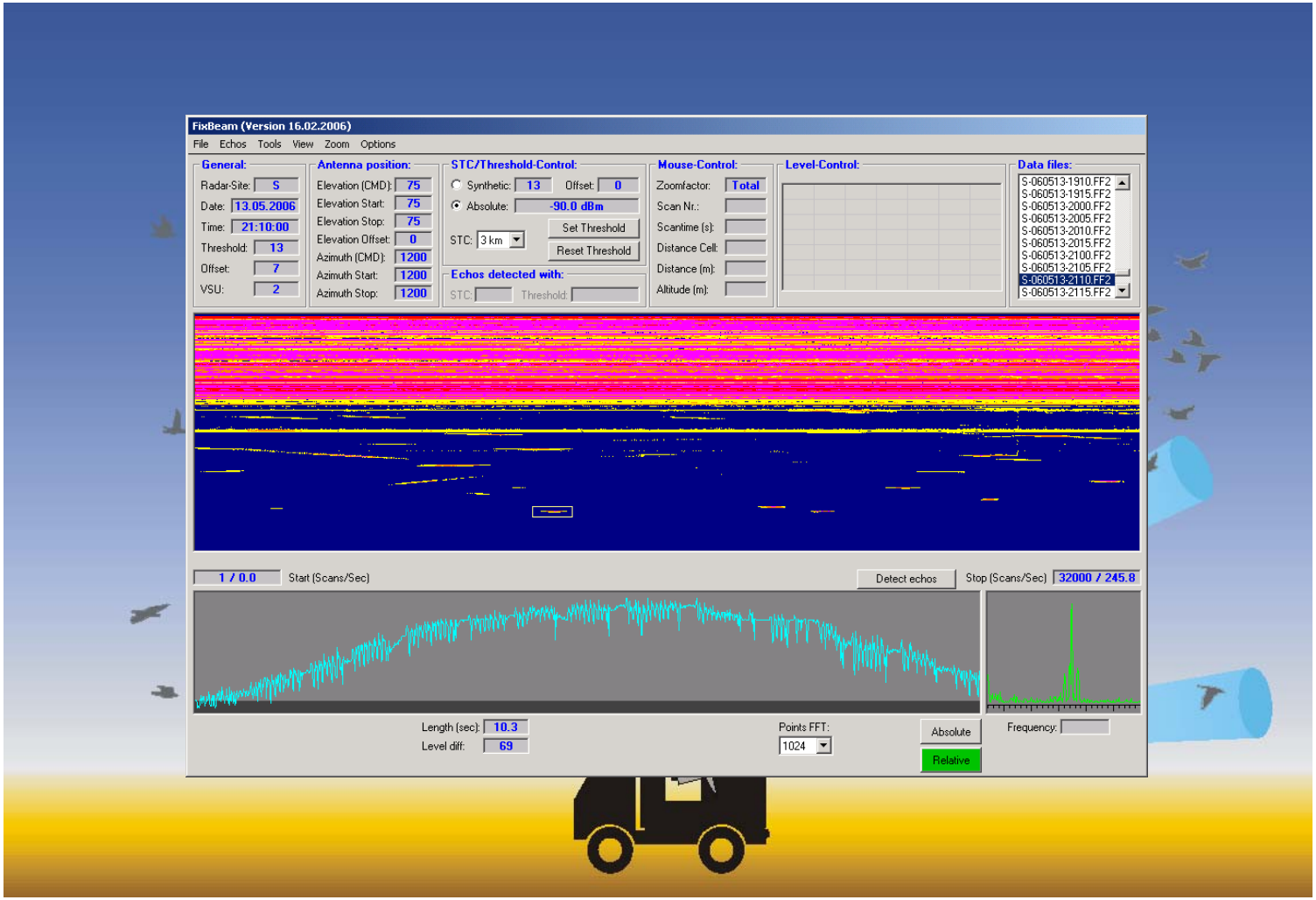
Past and Current efforts: data recording

digital video sampling: fast fixed beam measurement



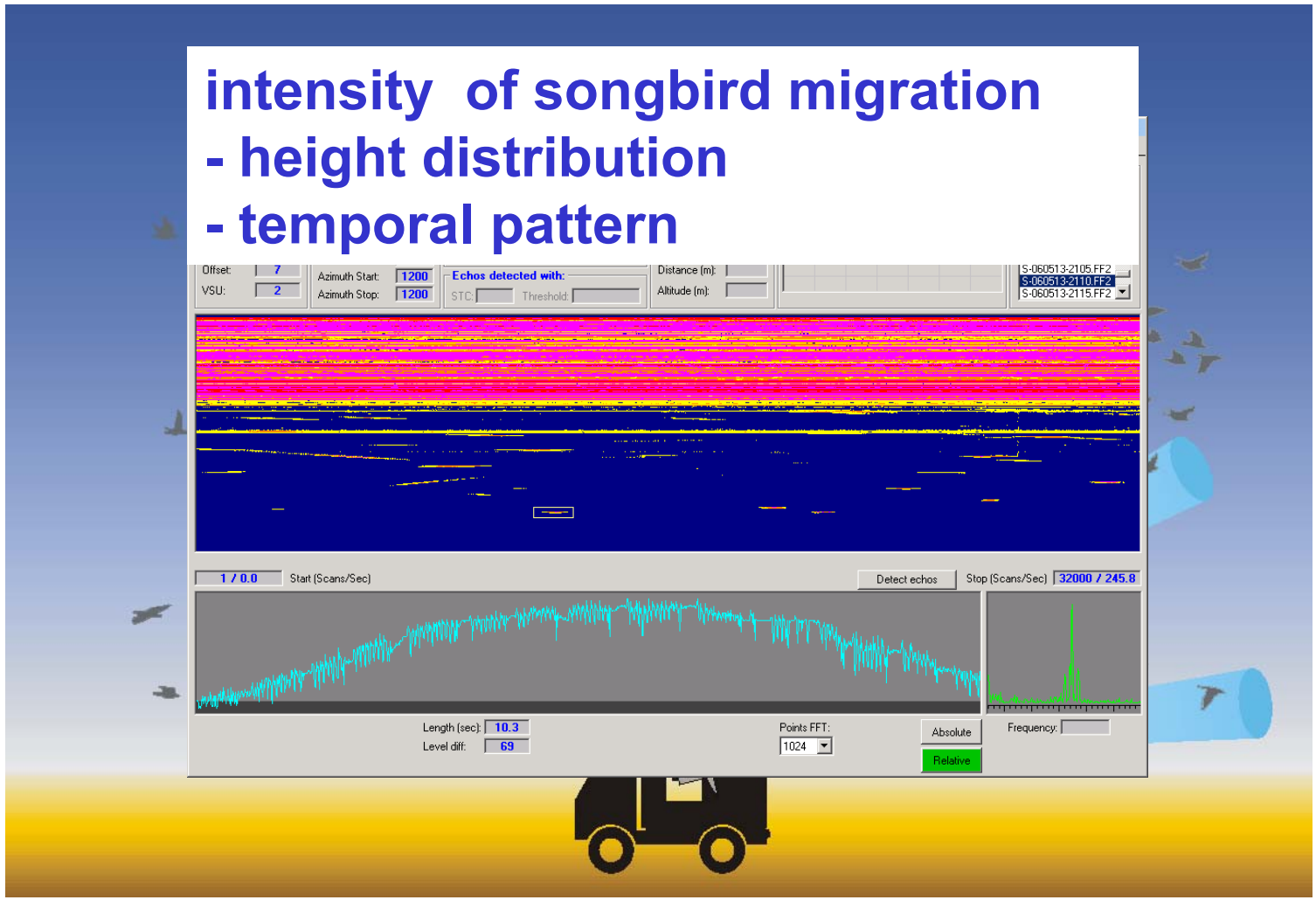
Past and Current efforts: data recording

digital video sampling: fast fixed beam measurement



Past and Current efforts: data recording

digital video sampling: fast fixed beam measurement



Past and current efforts: different operating modes

Tracking single targets

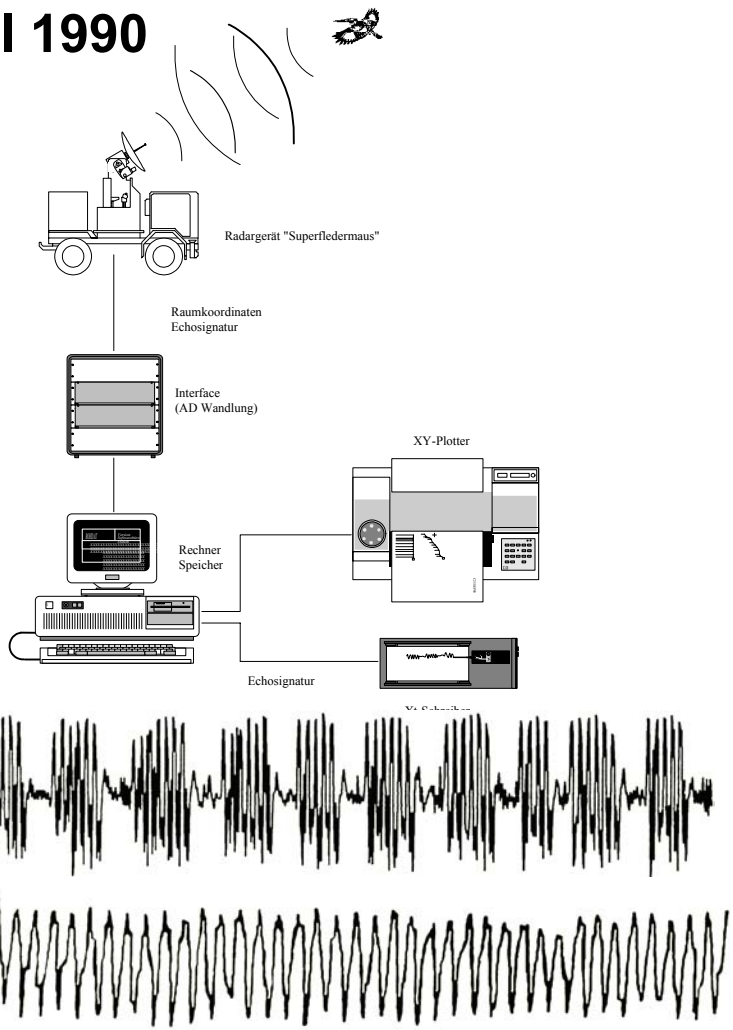
-individual flight paths
-wingbeat patterns

Conical scanning
- spatial and temporal pattern

Fix beam sampling
- echo identification by wingbeat patterns
- spatial and temporal pattern

Past and current efforts: radar equipment

until 1990



today

Past and current efforts: radar results

General information:

- **intensity / density in time and space**
- **identification by wing beat pattern**

Individual flight paths of single birds and flocks

- **direction, speed, height**
- **identification by wing beat pattern**

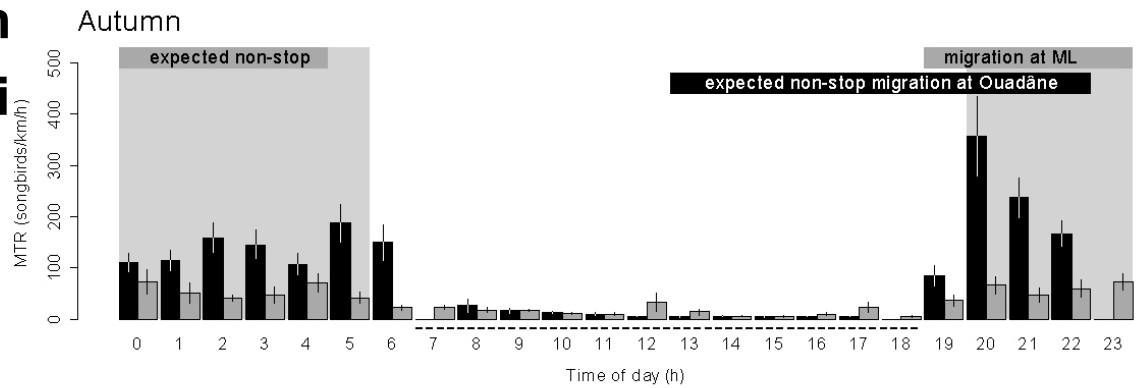
Past and current efforts: radar results

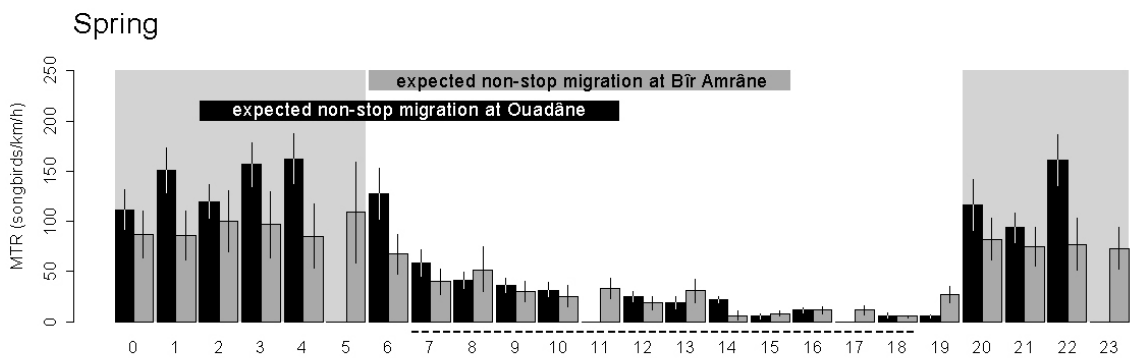
General information:

- **intensity / density in time and space**
- **identification by wing beat pattern**

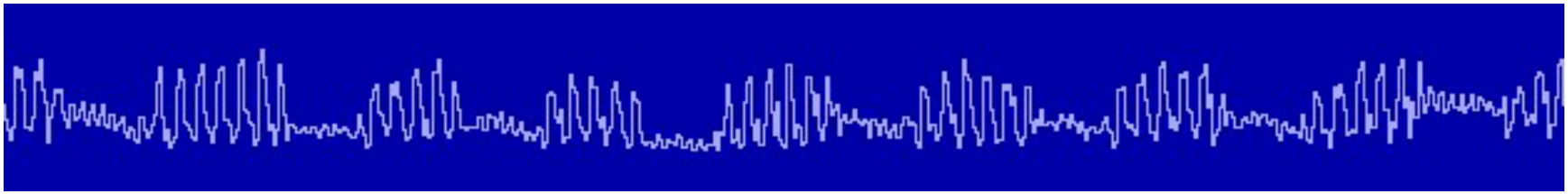
Individual flight paths of single birds and flocks

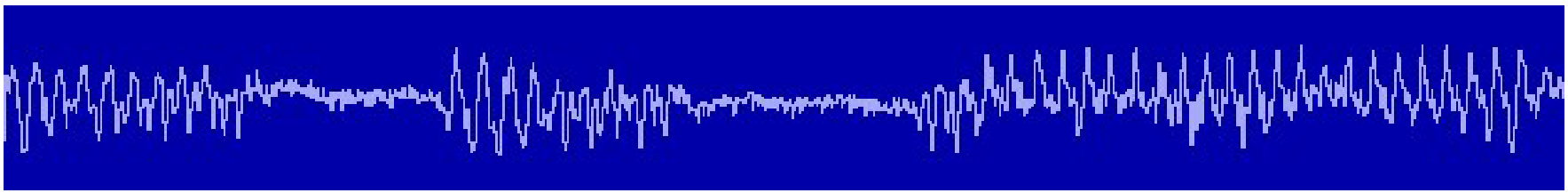
- **direction, speed, h**
- **identification by wi**

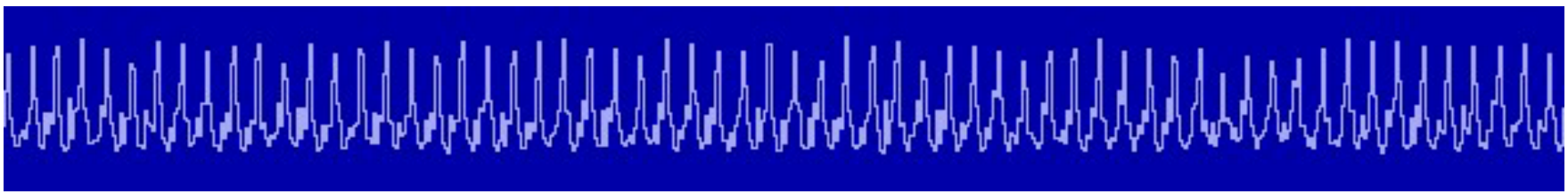




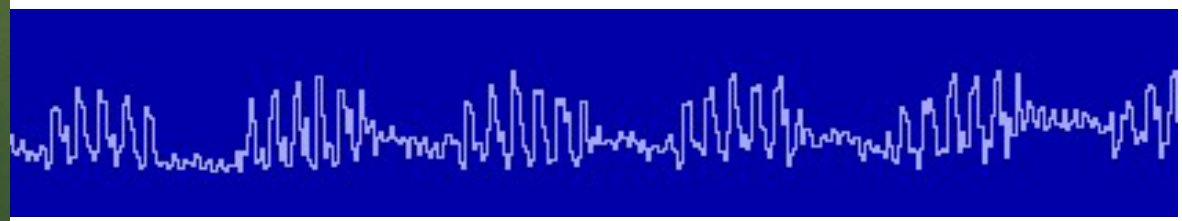
Past and current efforts: identification

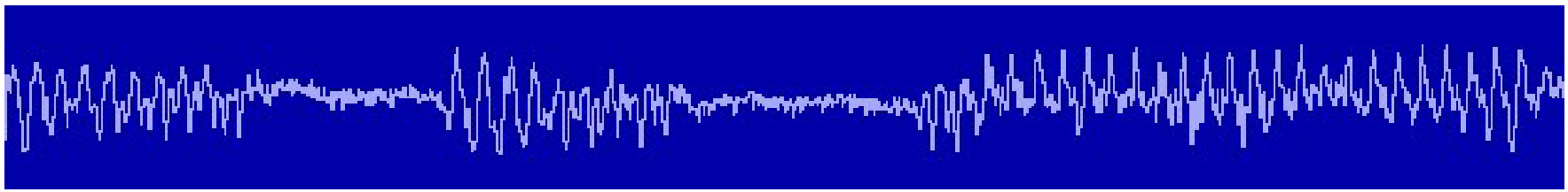


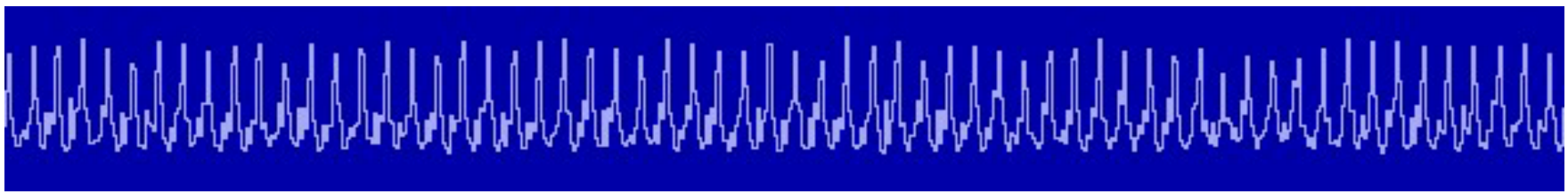




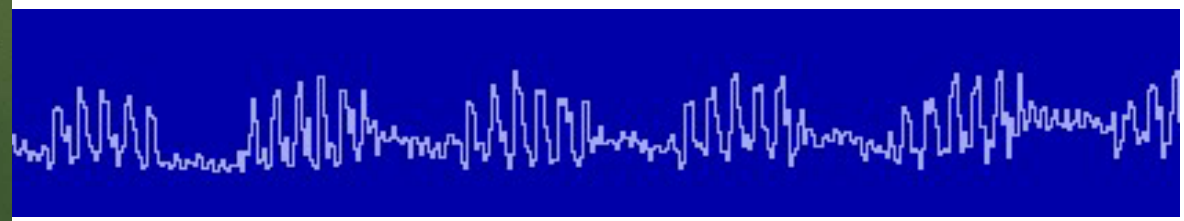
Past and current efforts: identification

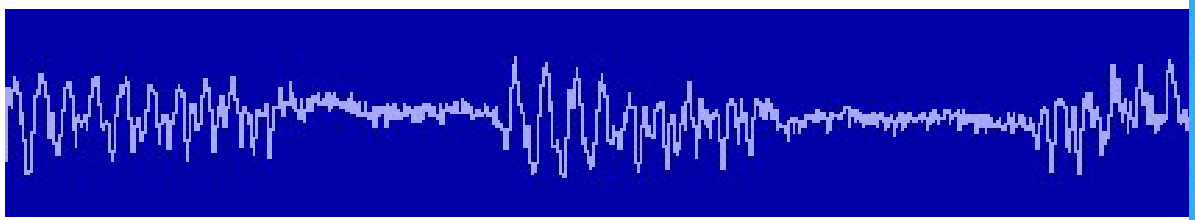


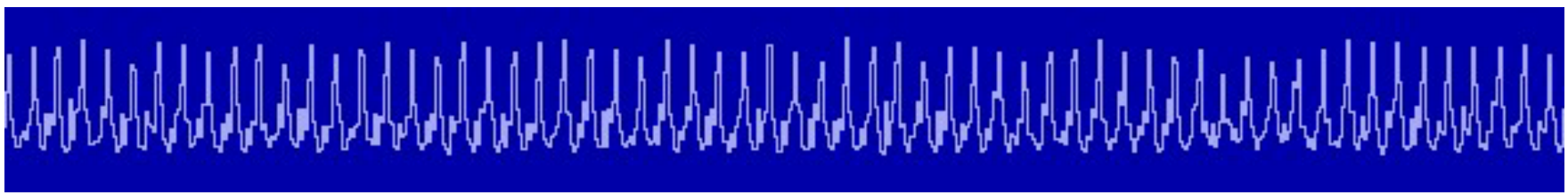




Past and current efforts: identification







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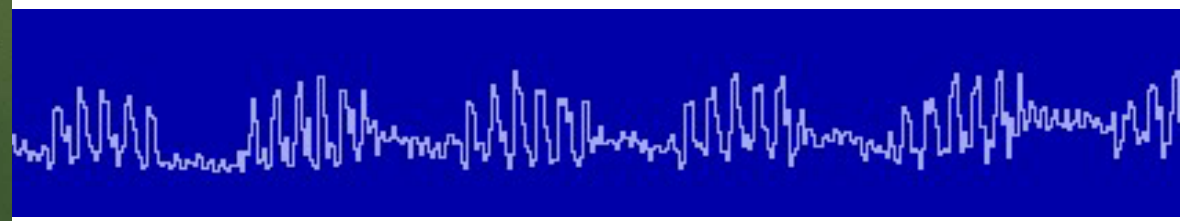

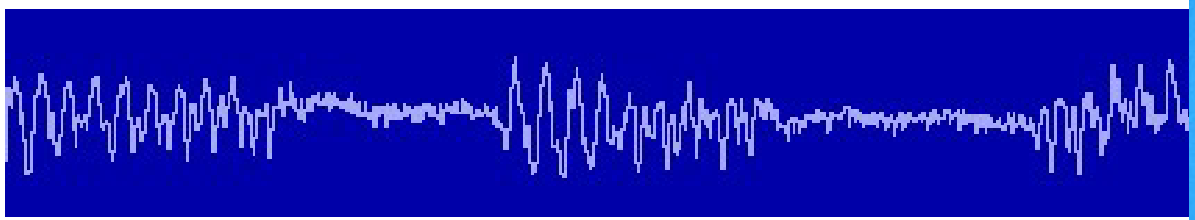

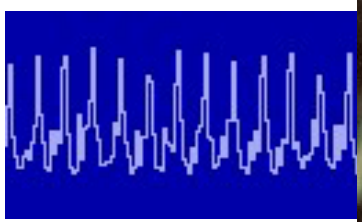

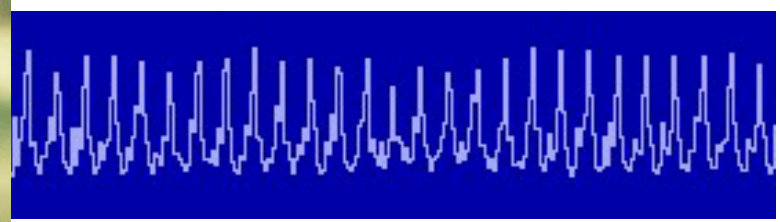

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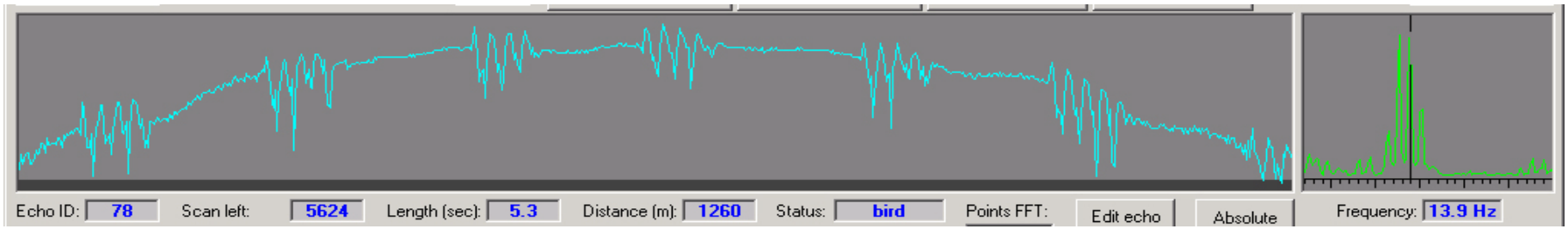
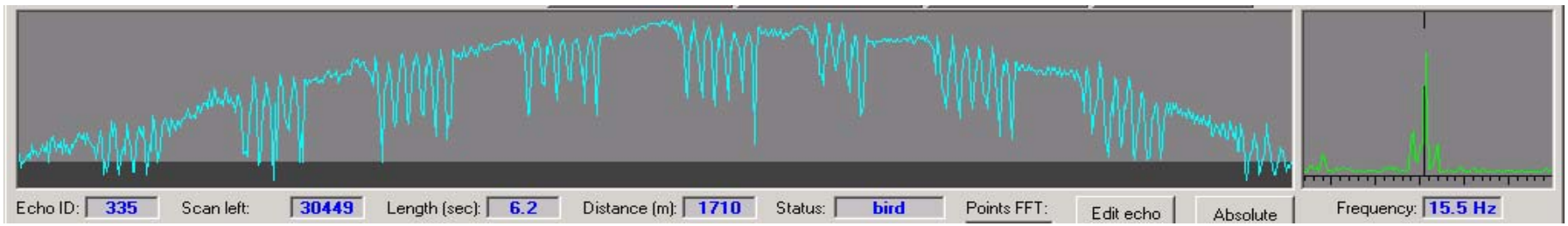
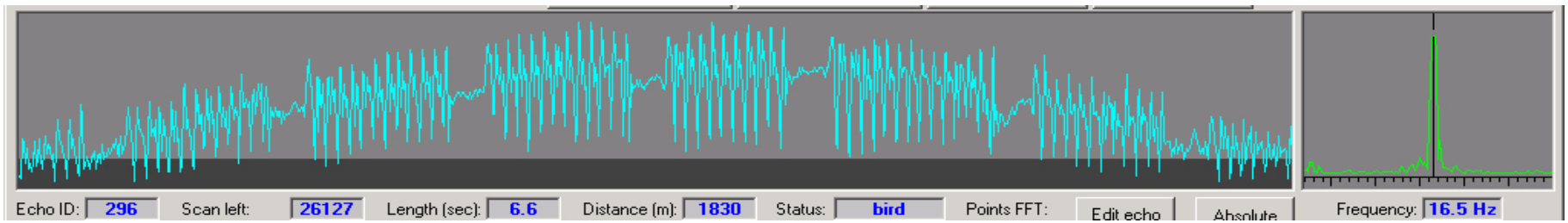


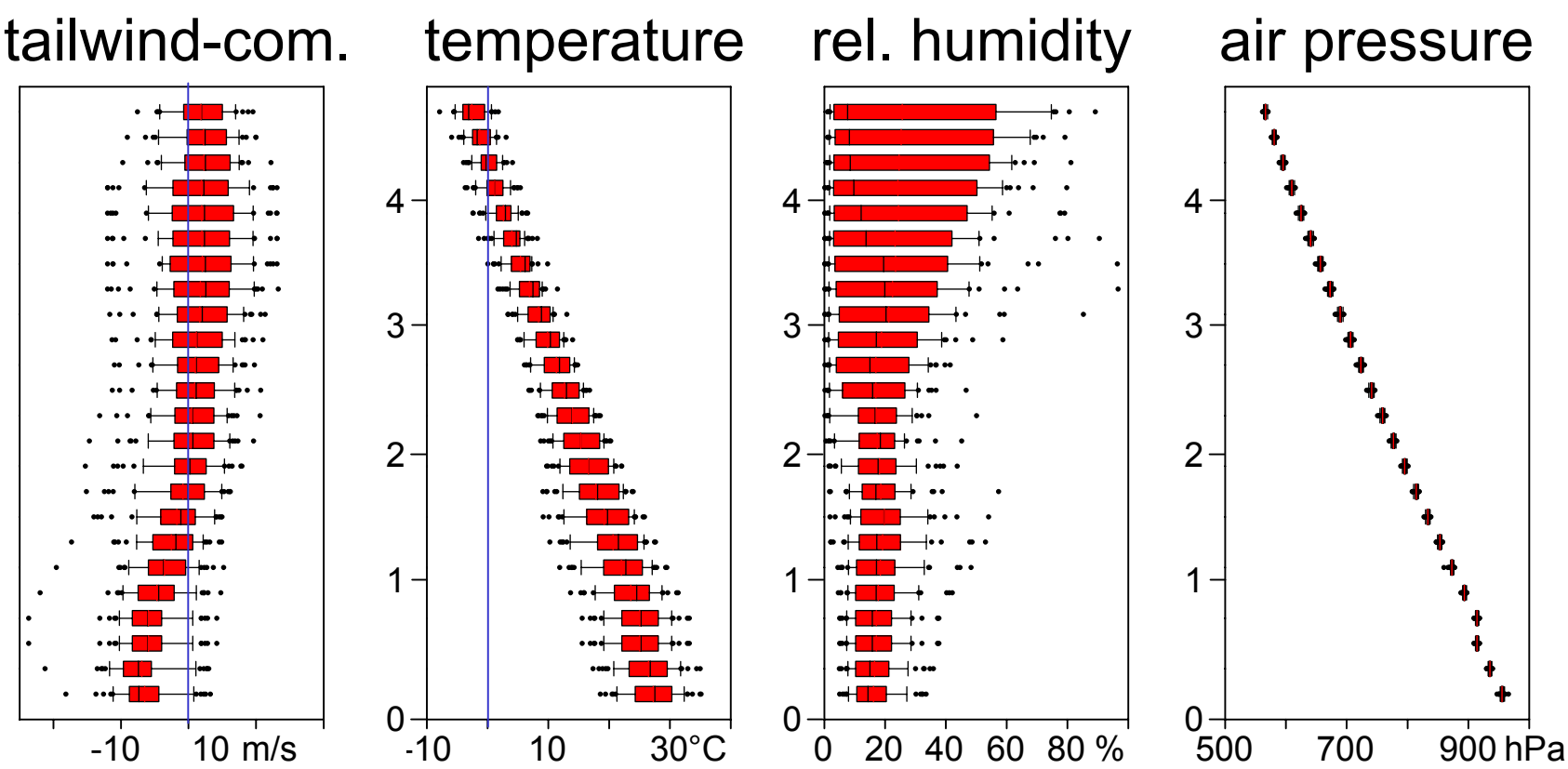




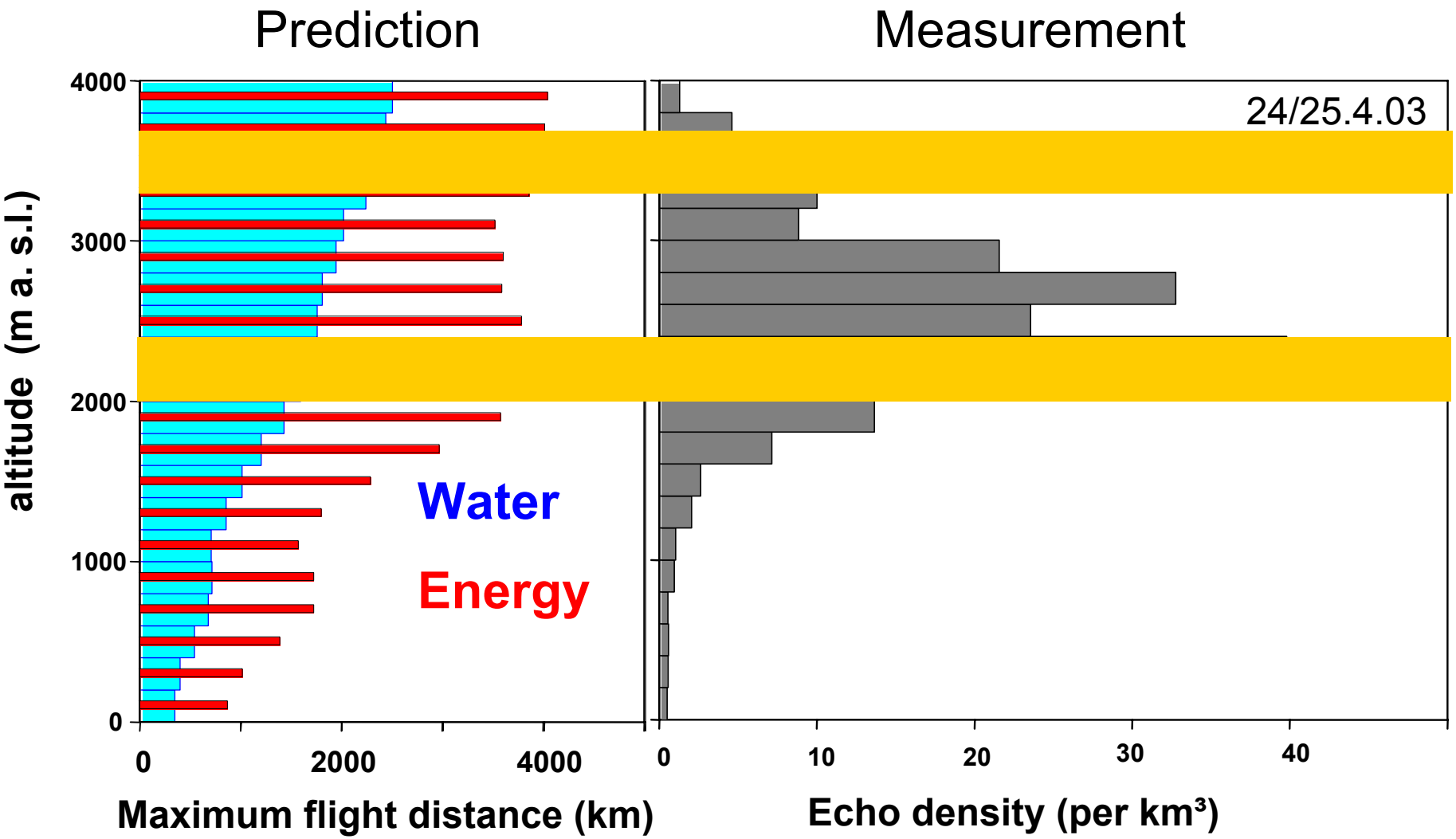
Past and current efforts: identification

Past and current efforts: physiological models

Atmospheric conditions (Sahara spring 03)



Past and current efforts: physiological models

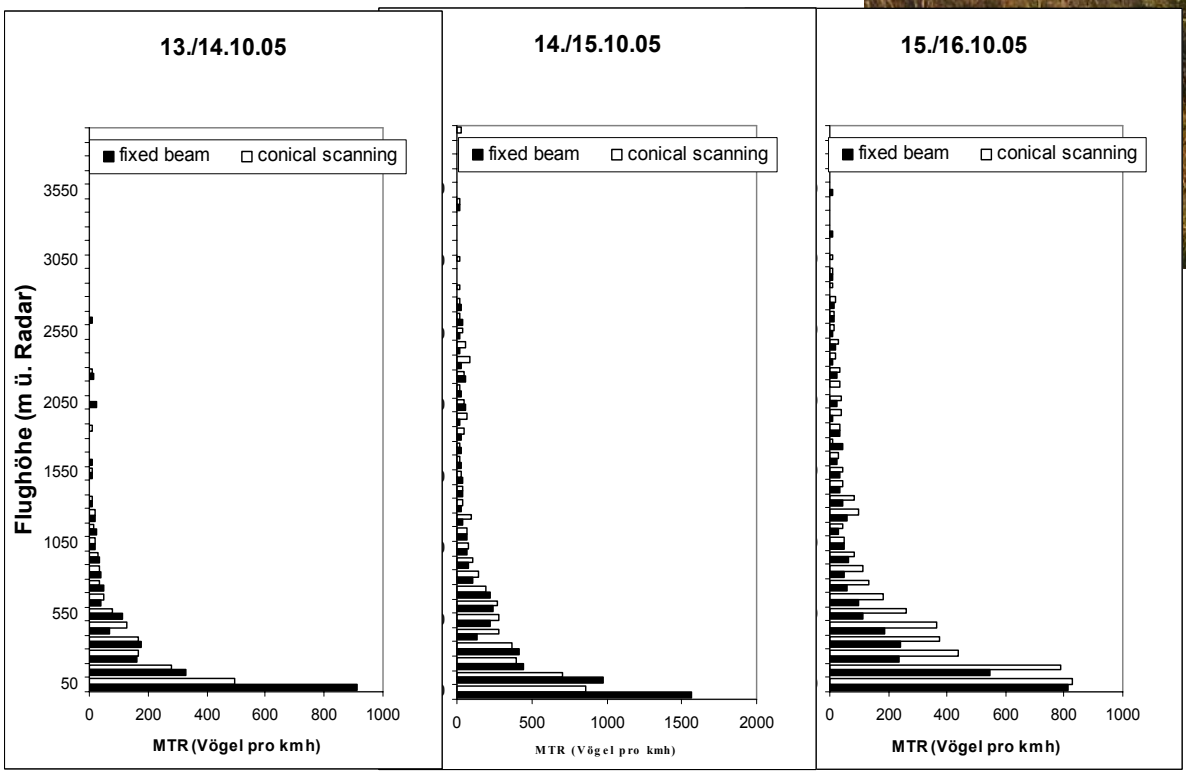


Current efforts: calibrating different radar systems

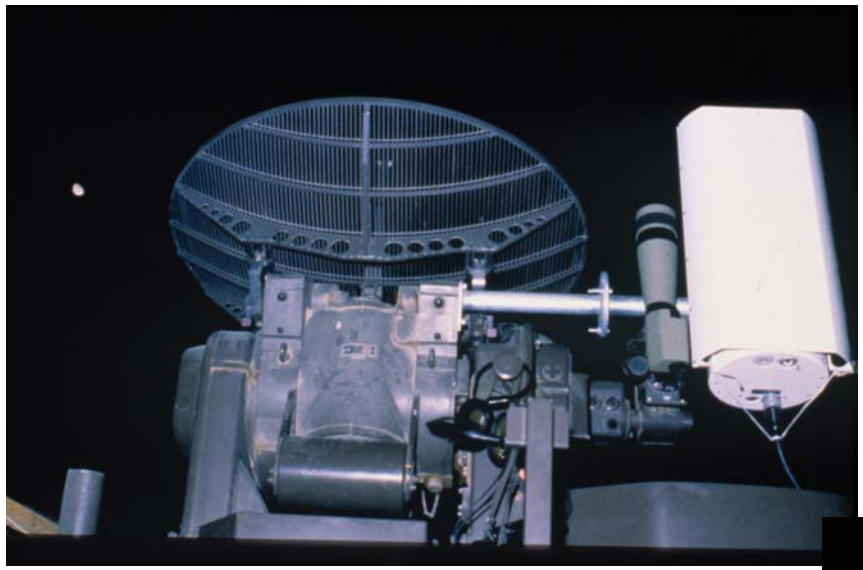
radar systems compared:

- tracking radar „superfledermaus“
  (fixed beam and conical scanning)

- ship radar (four different one)



Past and Current efforts: infrared observatoins



Passive infrared
- distance calibration
- density cross calibration

- easy to handle
- bird insect differentiation
- strong influence of background heat

Past efforts: the Sahara project