

# Mysterious DO peaks at night

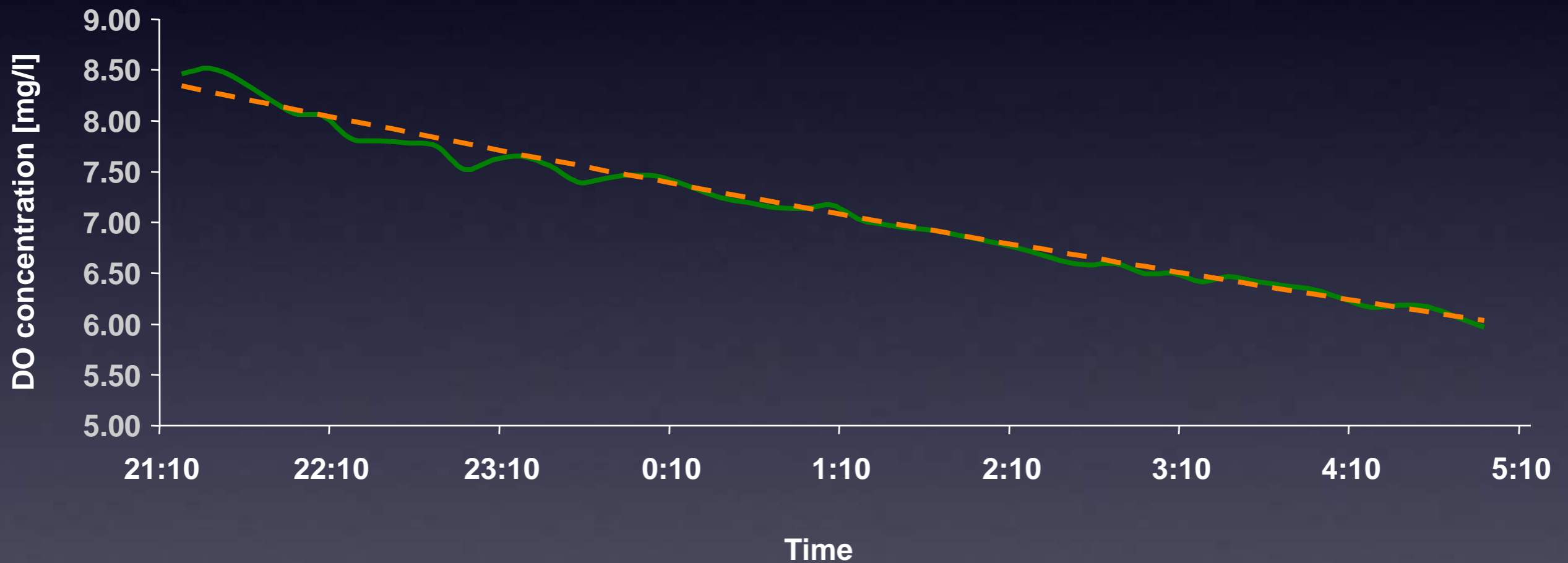
Lake Balaton Data, 2008

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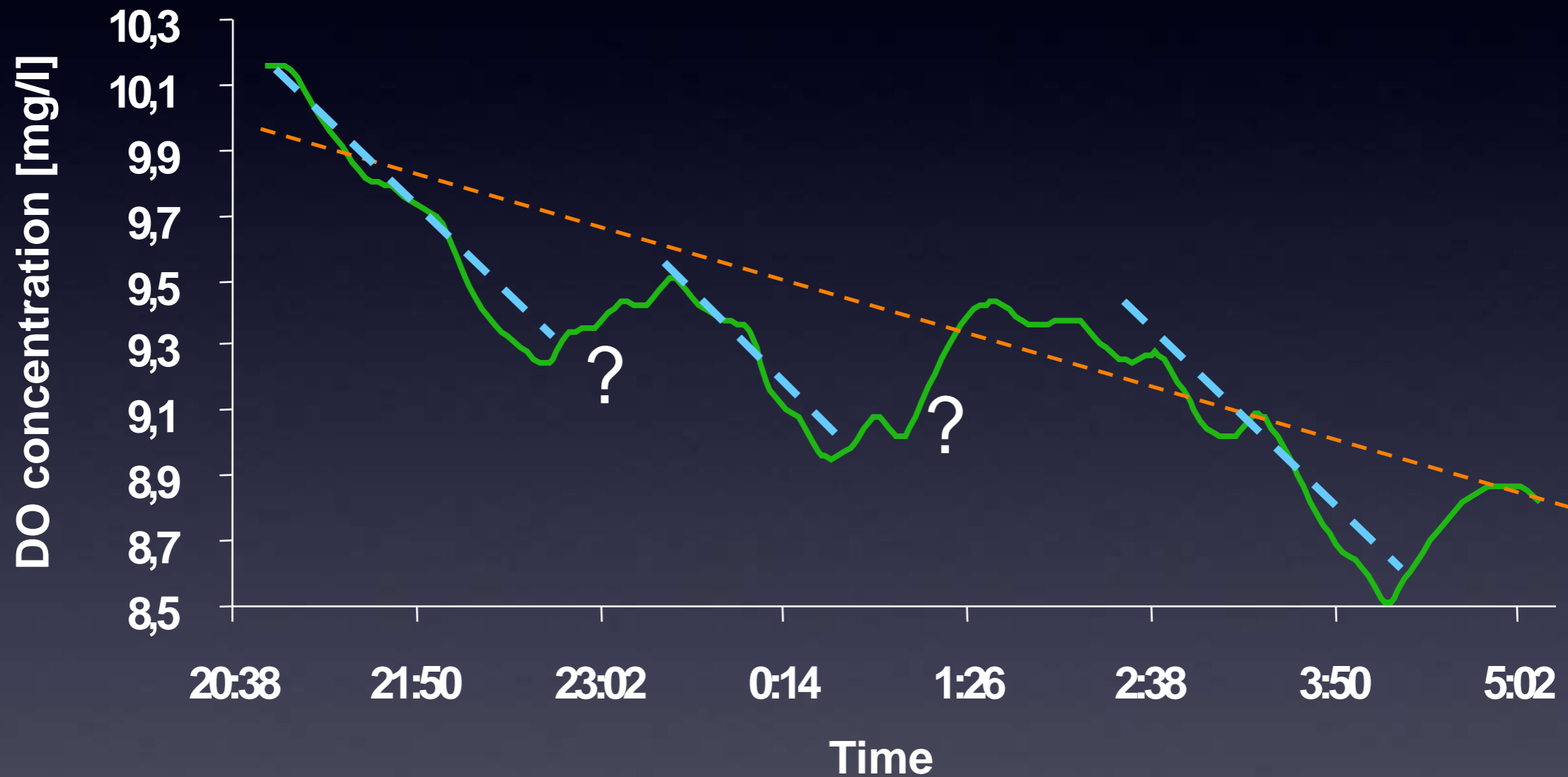
# Lake Balaton DO measurements and analysis

- Aim: estimate system production and respiration rate
- Saturation level and atmospheric diffusion estimated by empirical equations
- Reaeration was estimated to be much smaller than photosynthesis
- Diurnal variation governed by biotic processes

# “Normal” nights: constant respiration rate after correcting for diffusion



# Strange nights: sudden steps in DO



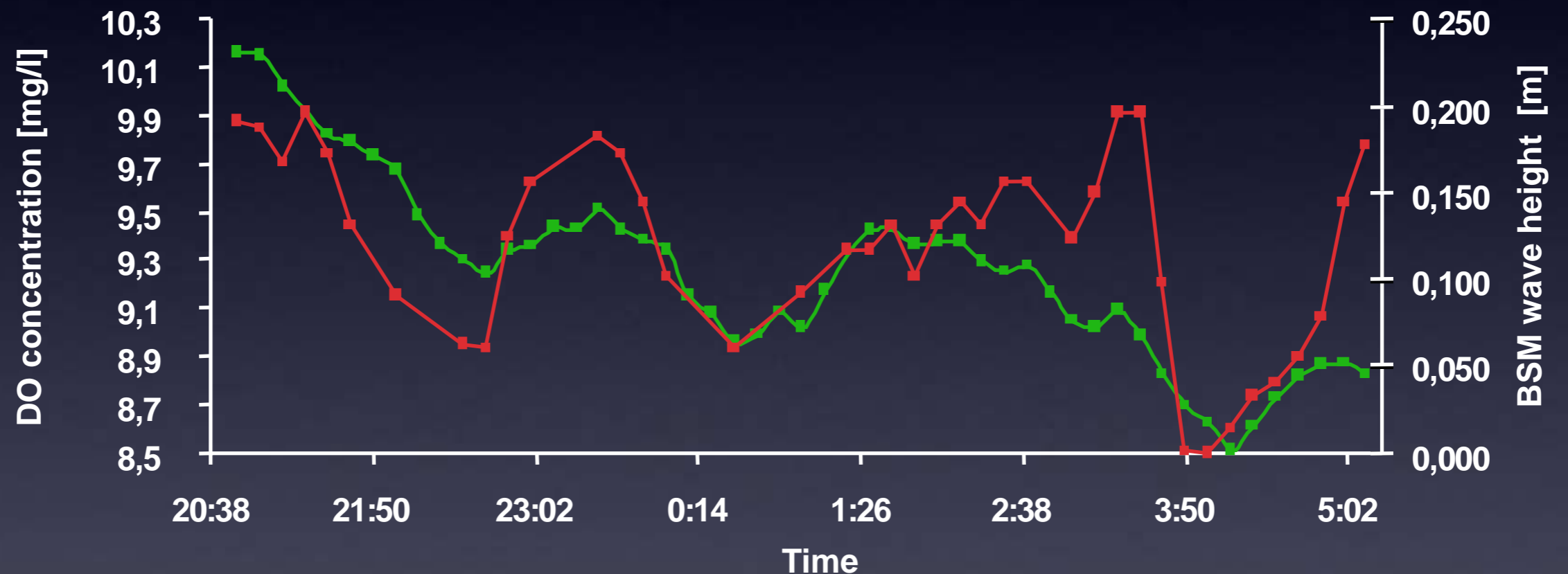
Hypothesis about the error → Respiration rate

# Possible reasons for DO peaks

- Probe error *must be systematic*
  - Internal transport *immediate reaction to wind (10 minutes)*
  - *not verified by gauge*
  - Rain
  - Wave action
- ?

# The wave hypothesis

computed wave height [m] and **DO** [mg/l]



Consistency with your observations?