

Mobile Optical Remote Sensing for quantification of Ammonia and Methane emissions from Dairy Farms in California

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- **Background**

CH₄ and NH₃ emissions from livestock production (14 single farm emissions, uncertainty, stickiness ...)

- **Method**

Column measurements of NH₃ – SOF (Mobile solar FTIR (Solar track + FTIR)) (900- 1000 cm⁻¹; Res. 0.5 cm⁻¹)

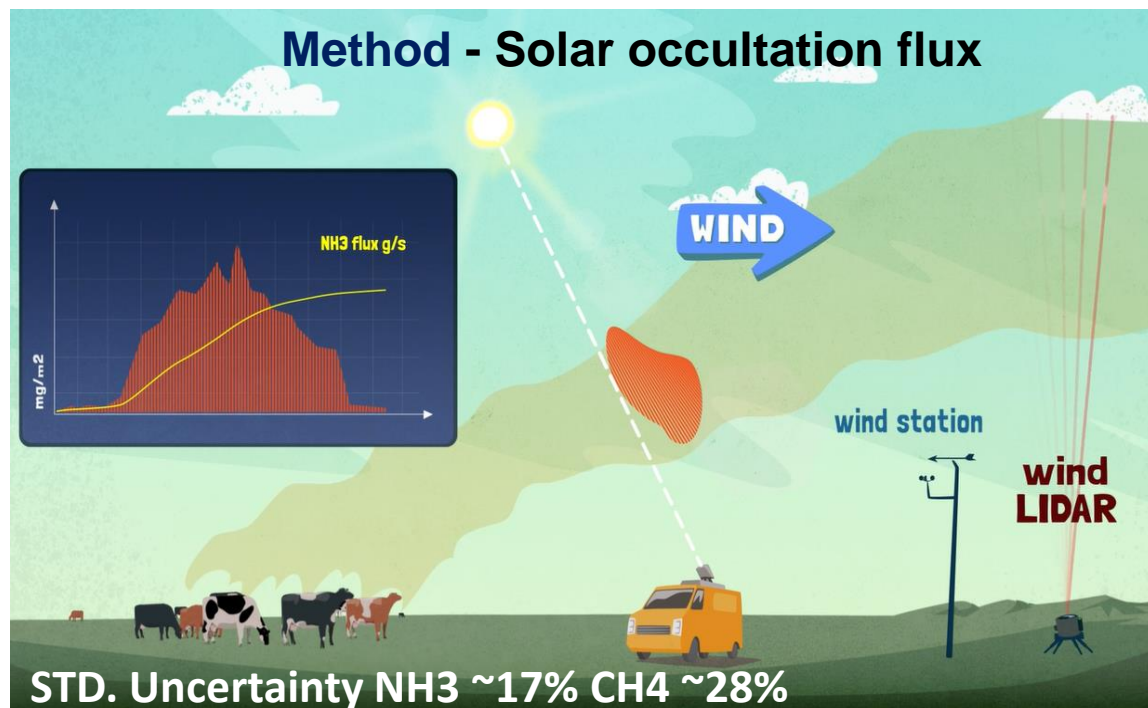
Concentration measurements - CH₄ and NH₃ (Multi-reflection cell (Path length – 68m) + FTIR) (NH₃ - 900- 1000 cm⁻¹; Res. 0.5 cm⁻¹) (CH₄ - 2800-3000 cm⁻¹; Res. 0.5 cm⁻¹)

- **Technical challenges**

Diffuse emission (CH₄/NH₃);
Flux measurements – Conc. and Wind profile.

- **Results**

Diurnal variation – NH₃
Inventories



Results - Diurnal variation

