Ground measurements of low-weight carboxylic acids during the ChArMEx field campaign using PTR-ToFMS

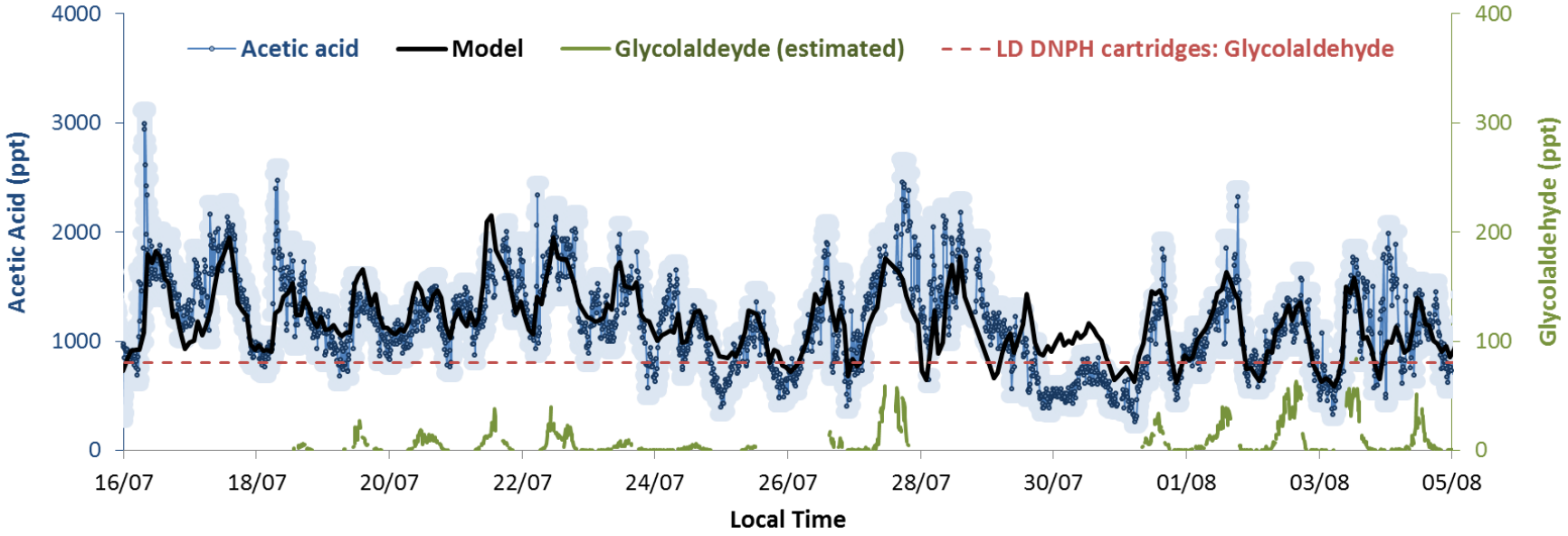
S. Dusanter et al.

Mines Douai, SAGE, France

- **Motivation**
  - Important compounds for ambient acidity and SOA formation
  - Poorly characterized atmospheric sources due to limited data

- **Poster content**
  - Determination of PTR-ToFMS performances for measuring formic, acetic, propionic, and butyric acids from laboratory & field testing
    - Humidity-dependence of response factors
    - Figures of merit (linearity, sensitivity, precision, LOD)
    - Selectivity for remote areas
    - Insights into carboxylic acid sources at a remote site (Cap Corsica, France)

- **Selected results:** Acetic acid (LOD=150 ppt, precision 16% @ 500 ppt)



  - Elevated mixing ratios (250-3000 ppt) measured during ChArMEx with interferences from glycolaldehyde lower than 10%
  - Large contribution of photochemical sources to the acid budget suggested by a multiple linear regression analysis

- **Main conclusion:** PTR-ToFMS measurements are promising to investigate atmospheric C1-C4 carboxylic acid budgets