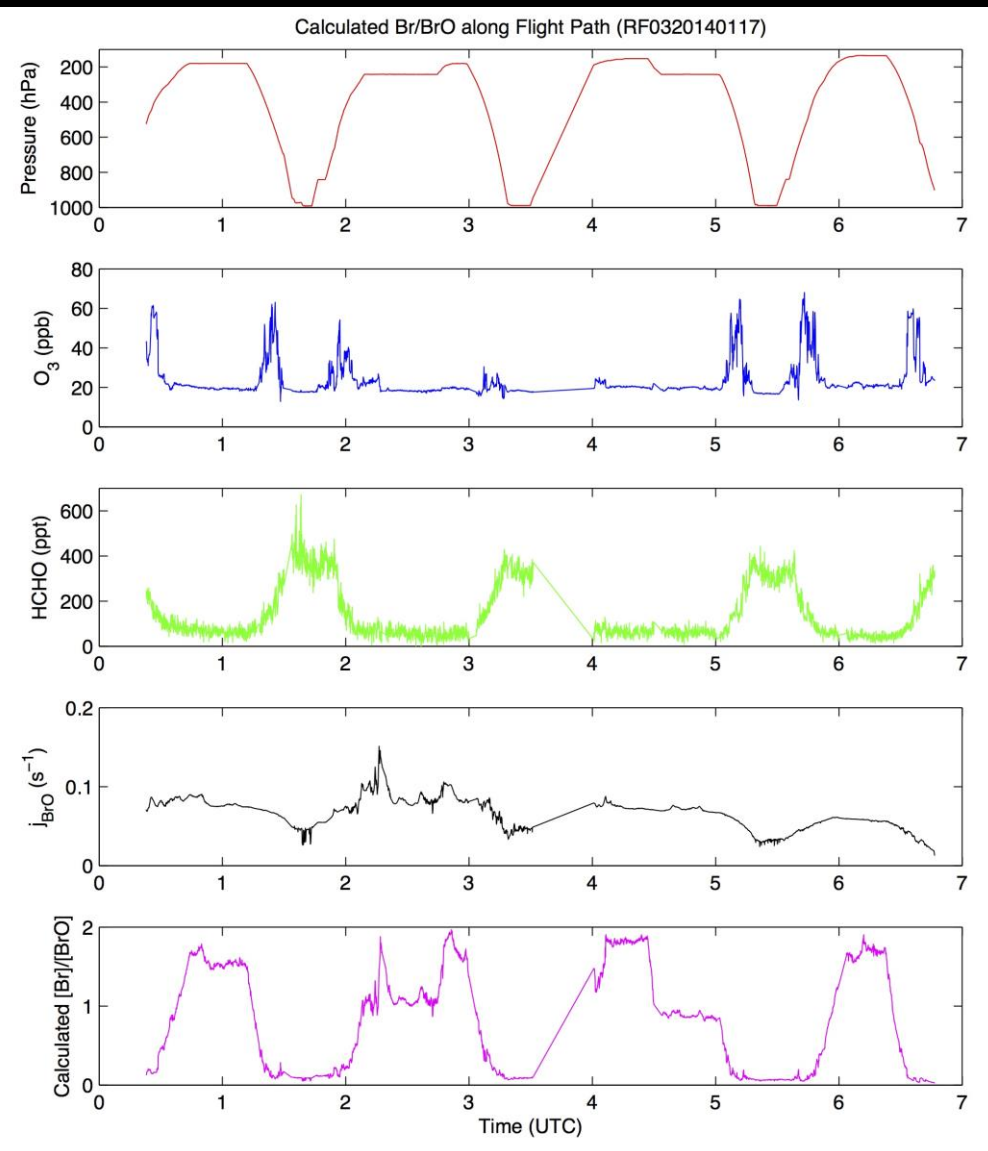


Br/BrO ratio: Model and Measurement

Dan Anderson

Tim Canty

Calculated Br/BrO Ratios

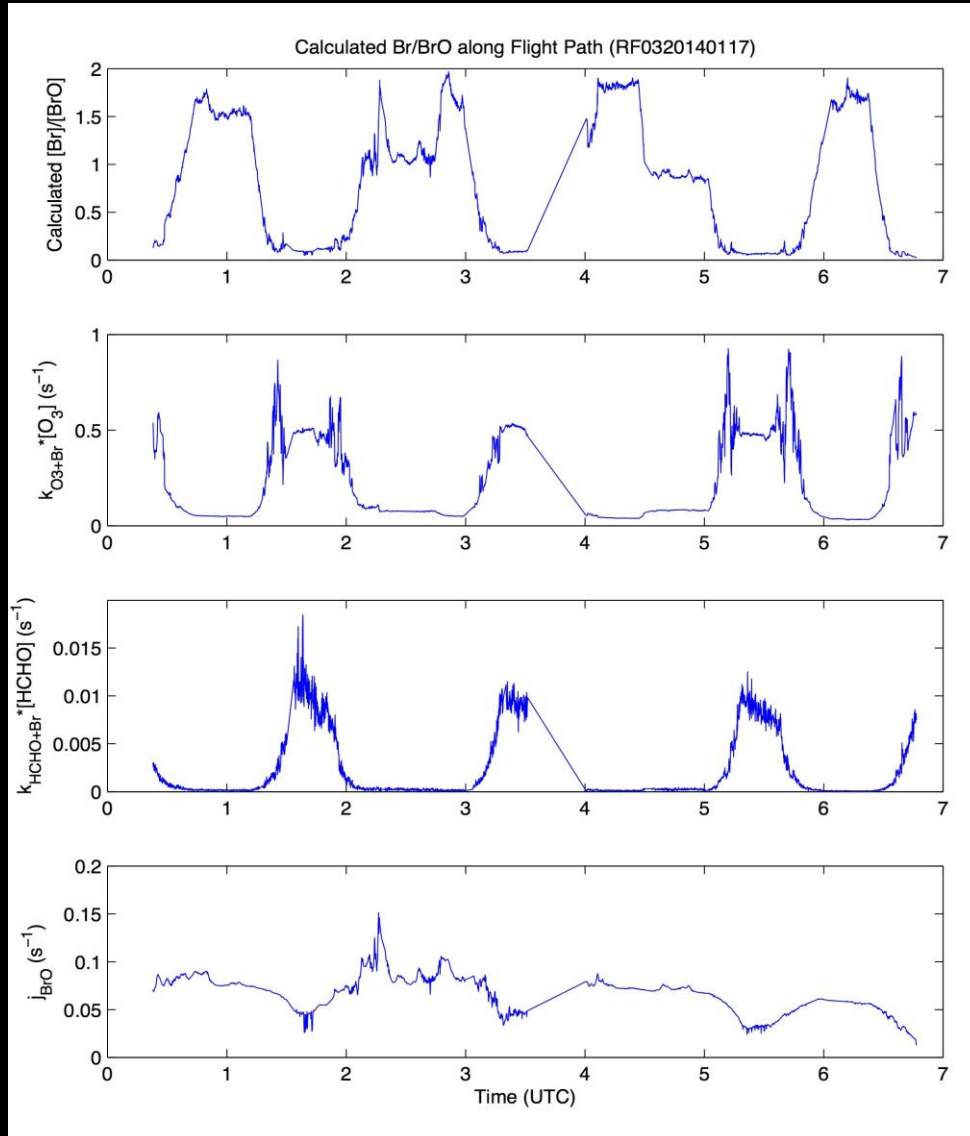


- Calculate Br/BrO using BrO photolysis and Br reactions with O₃ and HCHO.

$$[\text{Br}]/[\text{BrO}] = \frac{j_{\text{BrO}}}{(k_{\text{O}_3}[\text{O}_3] + k_{\text{HCHO}}[\text{HCHO}])}$$

- O₃ concentration is the dominate factor in determining ratio.
- Contribution from other VOCs likely negligible.

Calculated Br/BrO Ratios

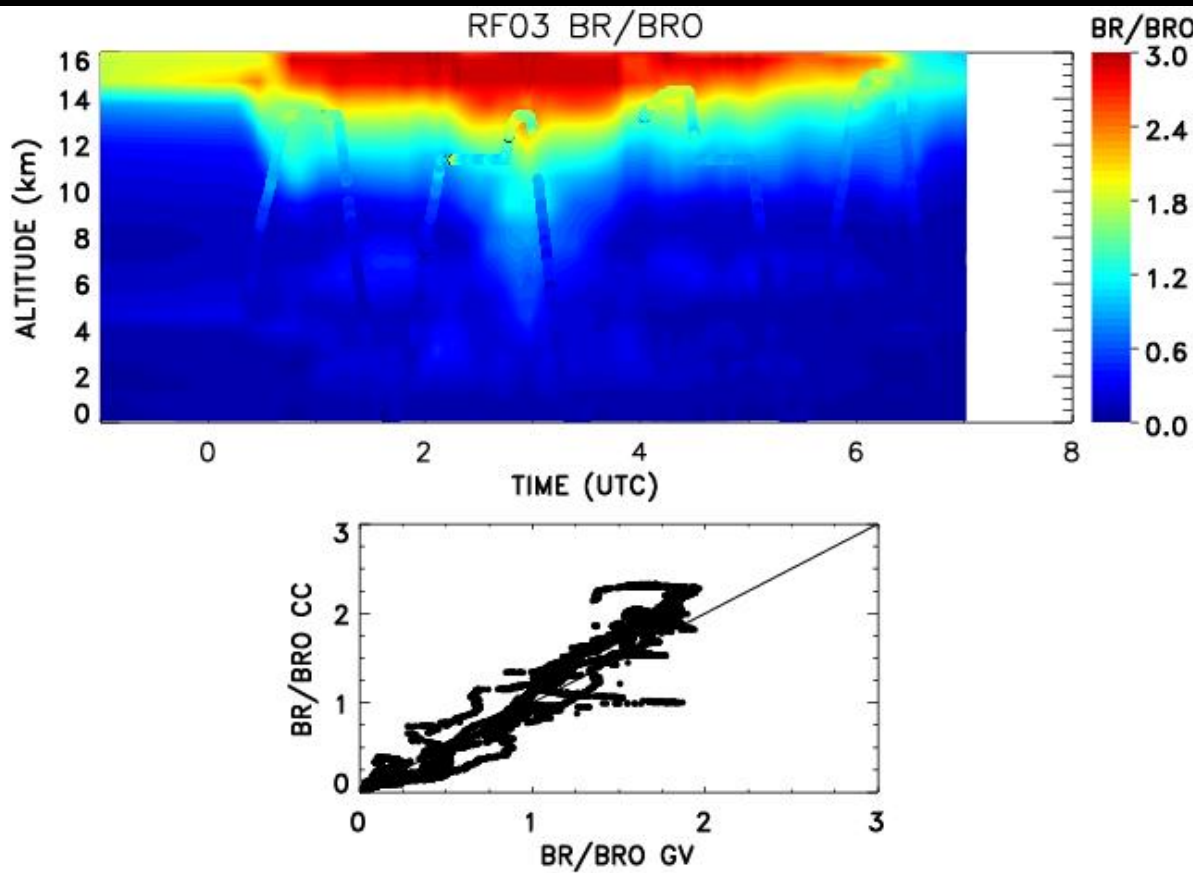


- Calculate Br/BrO using BrO photolysis and Br reactions with O_3 and HCHO.

$$[Br]/[BrO] = \frac{j_{BrO}}{k_{O_3}[O_3] + k_{HCHO}[HCHO]}$$

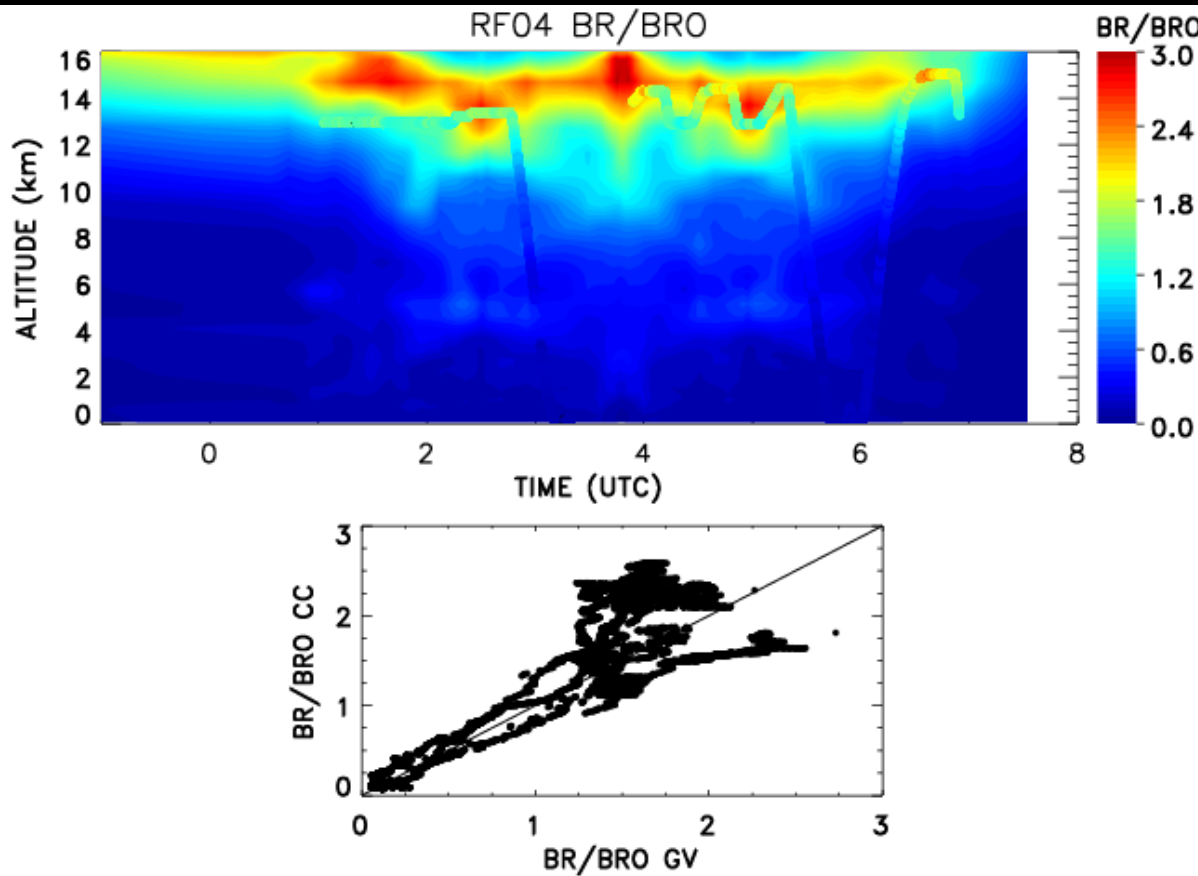
- O_3 concentration is the dominate factor in determining ratio.
- Contribution from other VOCs likely negligible.

Comparison of Modeled and Calculated Br/BrO: RF03



- Good agreement between CAMChem and calculations.
- Model overpredicts ratio at high altitudes.

Comparison of Modeled and Calculated Br/BrO: RF04



- Good agreement between CAMChem and calculations.
- Model overpredicts ratio at high altitudes.