

# HNO<sub>3</sub> Time Series

## Definitions:

$$\text{NO}_z = \text{NO}_y - \text{NO}_2 - \text{NO} - \text{ANs} - \text{PNs}$$

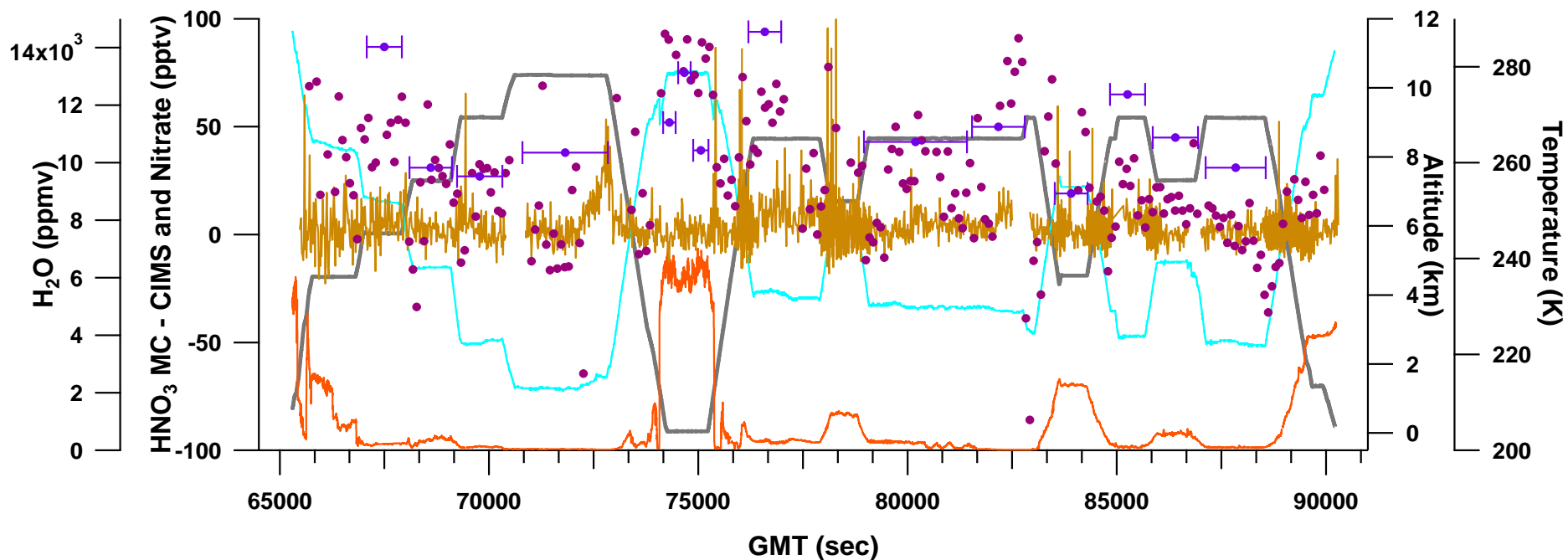
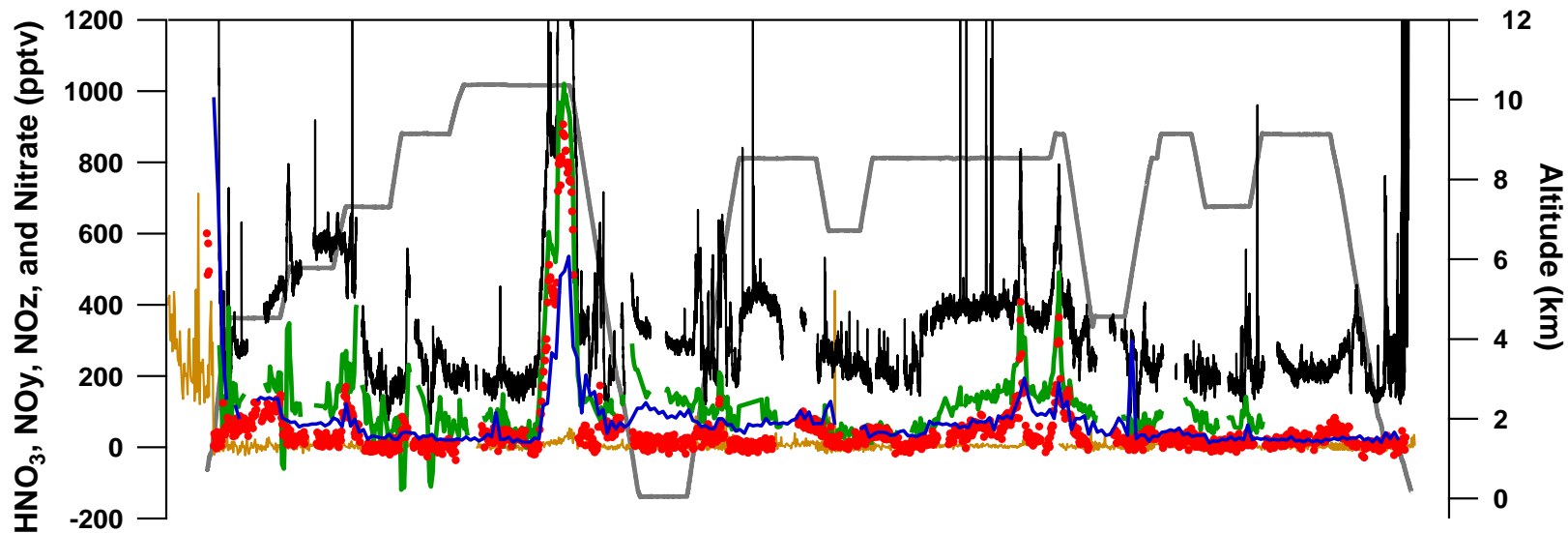
Note: ANs = 0; NO<sub>z</sub> calculated using 1 second merge for Spring phase and 10 second merge for the Summer phase

### Revision Notes for NO<sub>z</sub>

20080401: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080404: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080405: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080408: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080409: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080412: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080416: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080417: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080419: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080618: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080622: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080624: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080629: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080701: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080704: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080705: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080708: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080709: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080710: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080713: NOxyO3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0

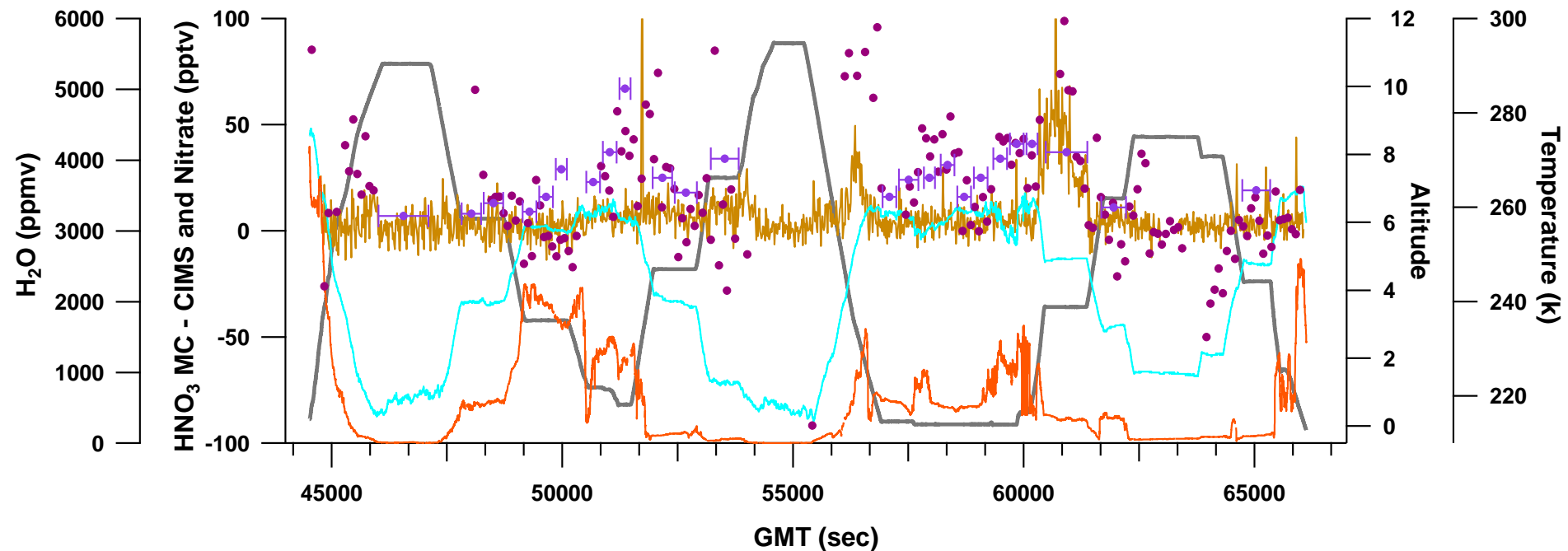
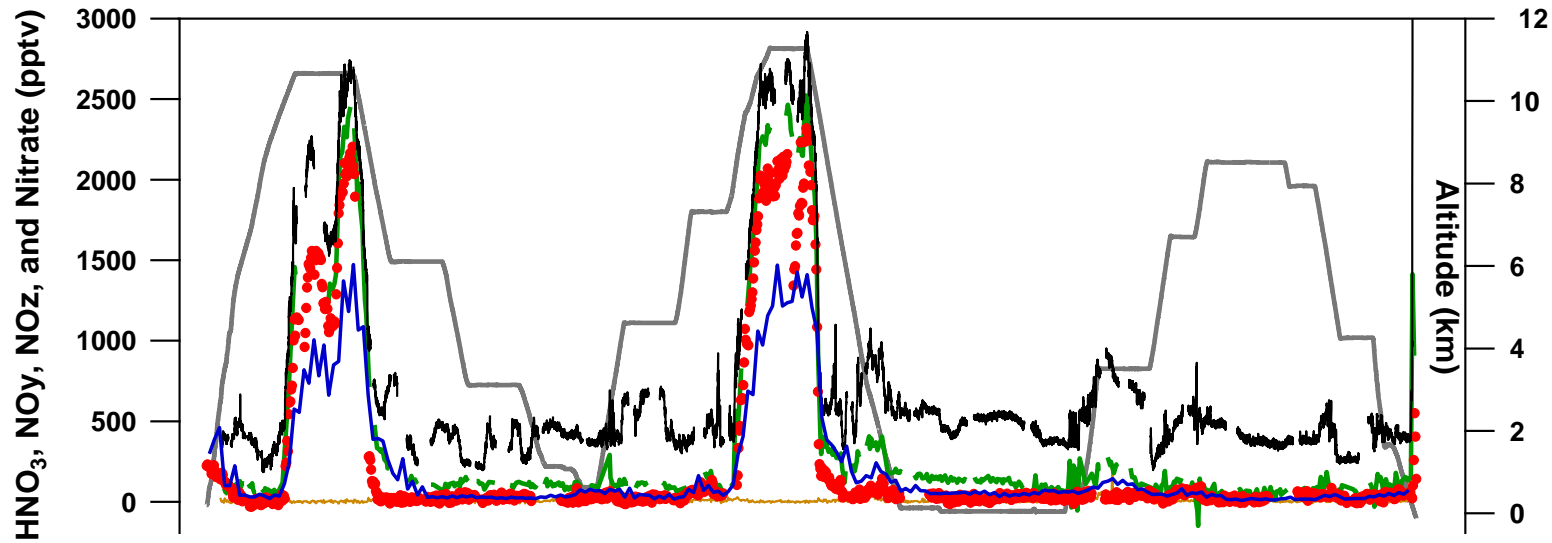
04/01/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
— NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



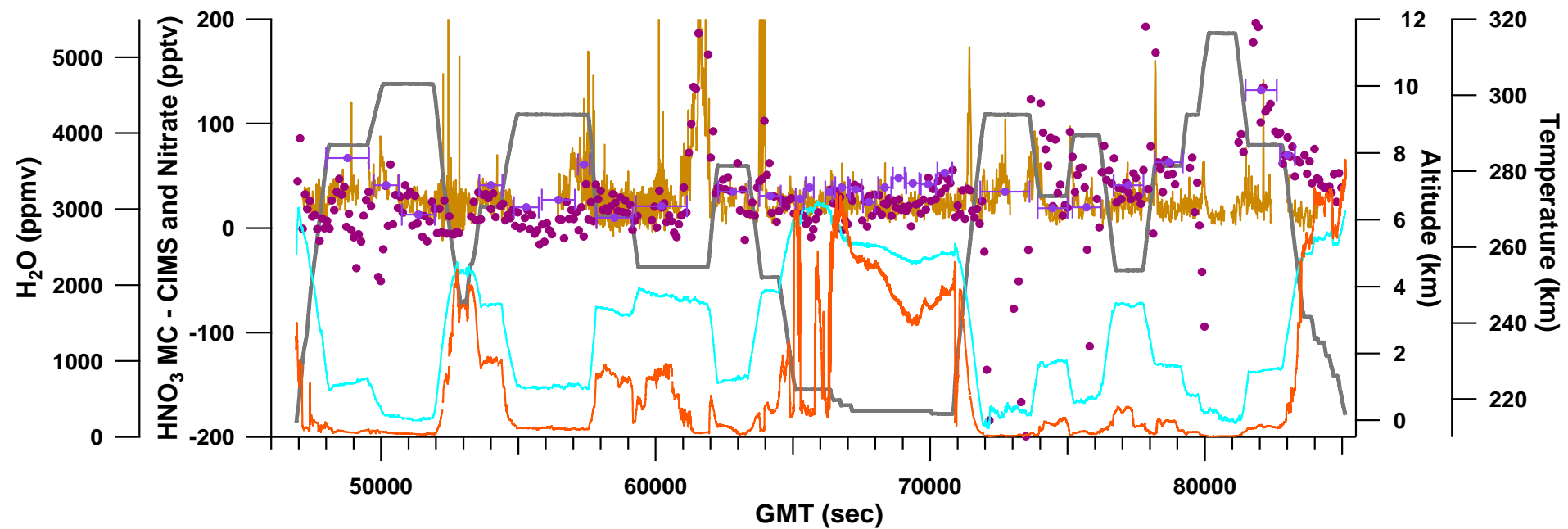
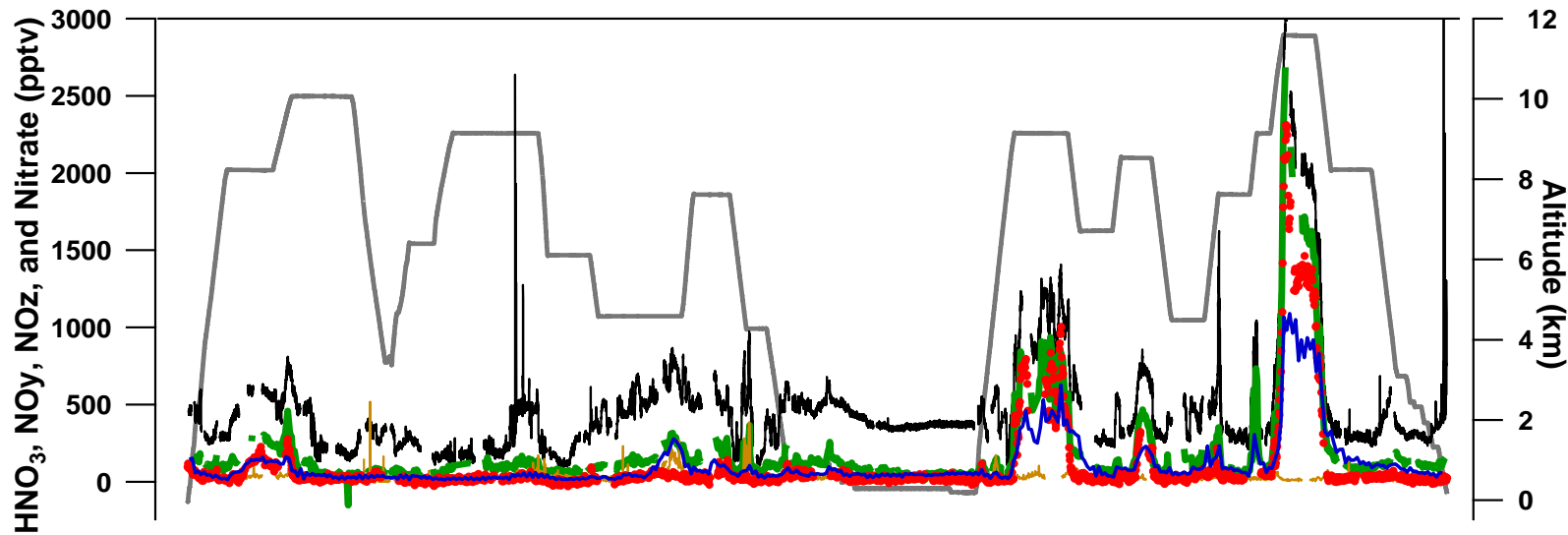
04/04/2008

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— NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



04/05/2008

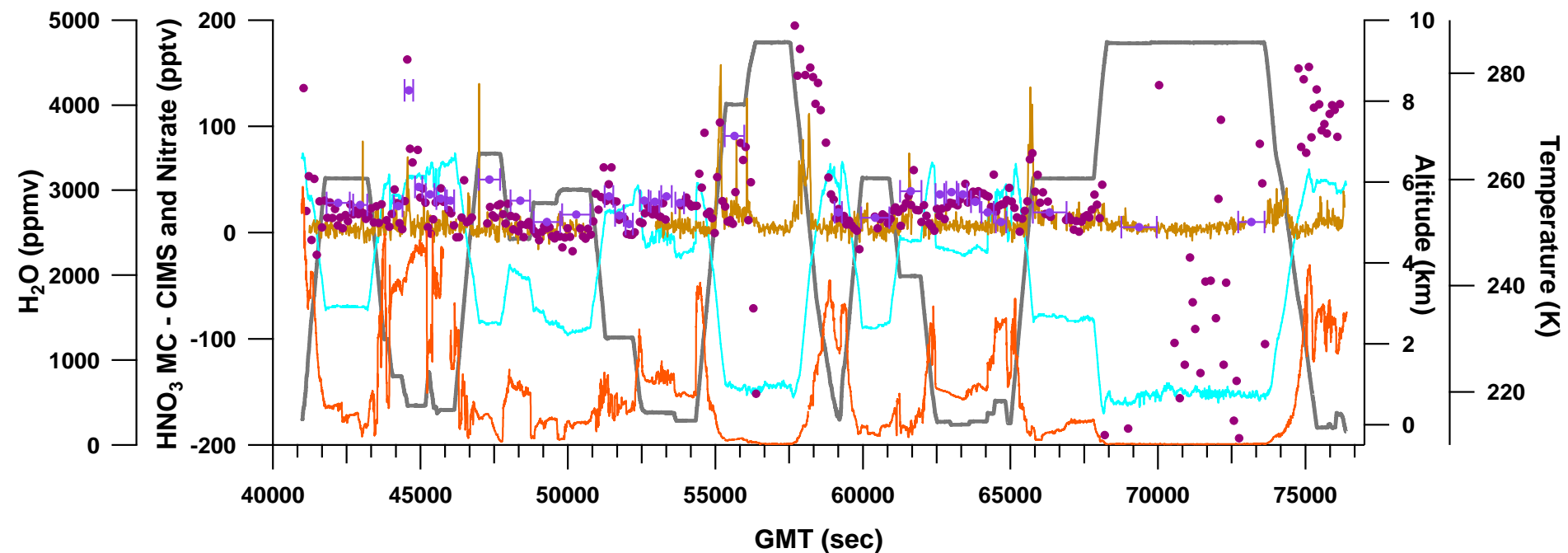
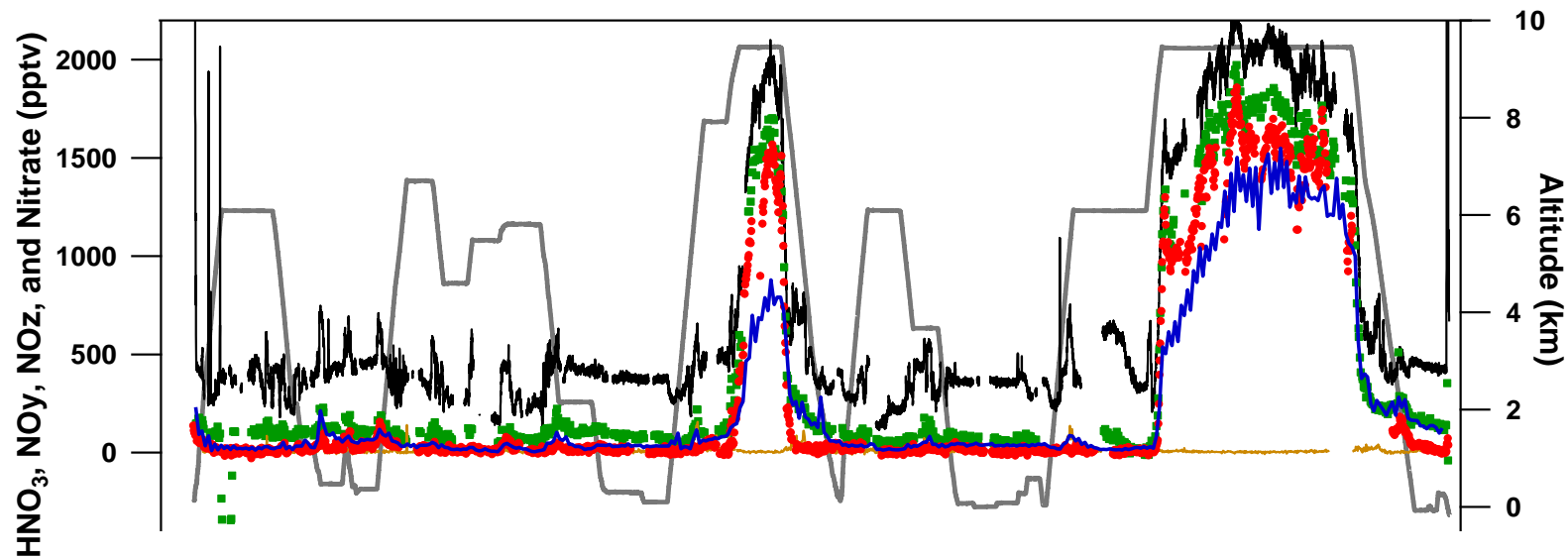
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— NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





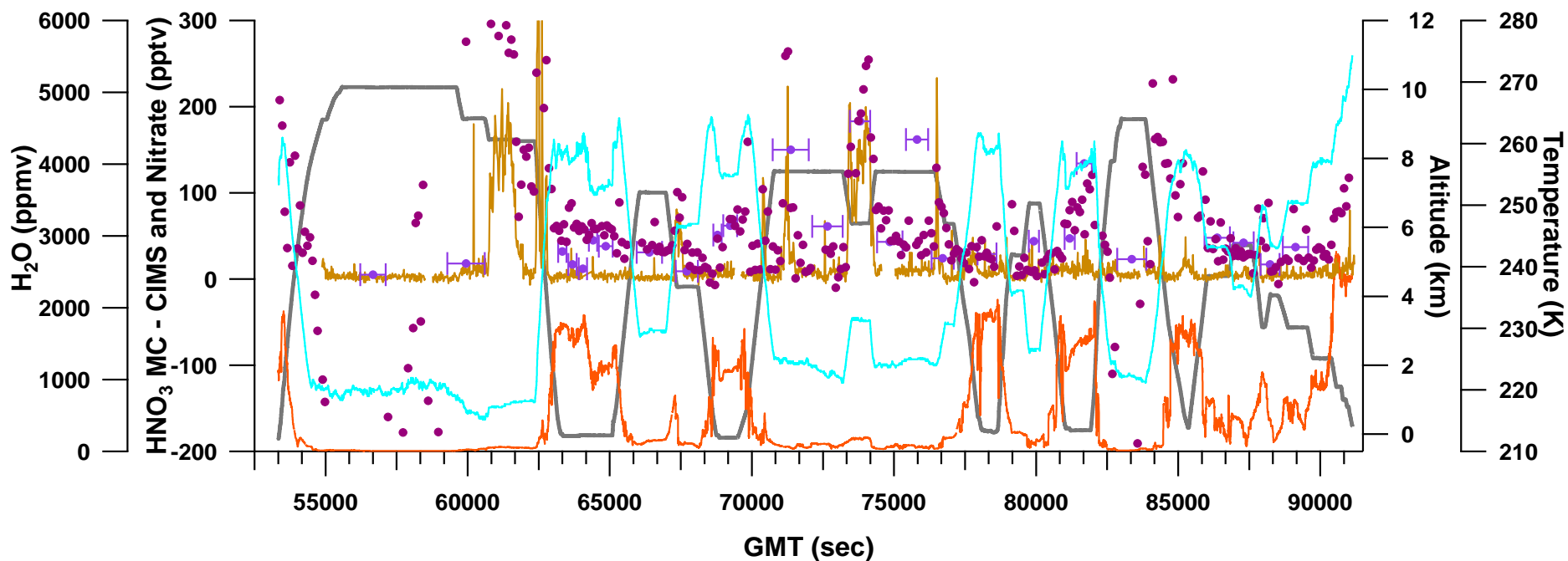
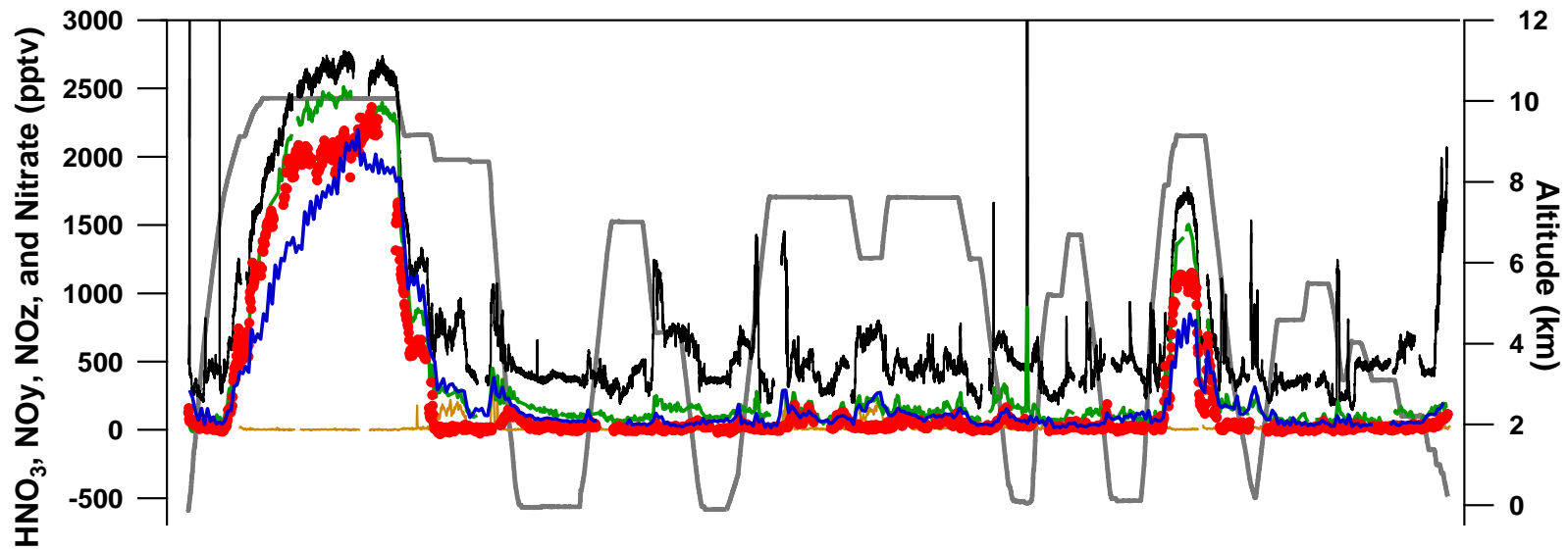
04/08/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
■ NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



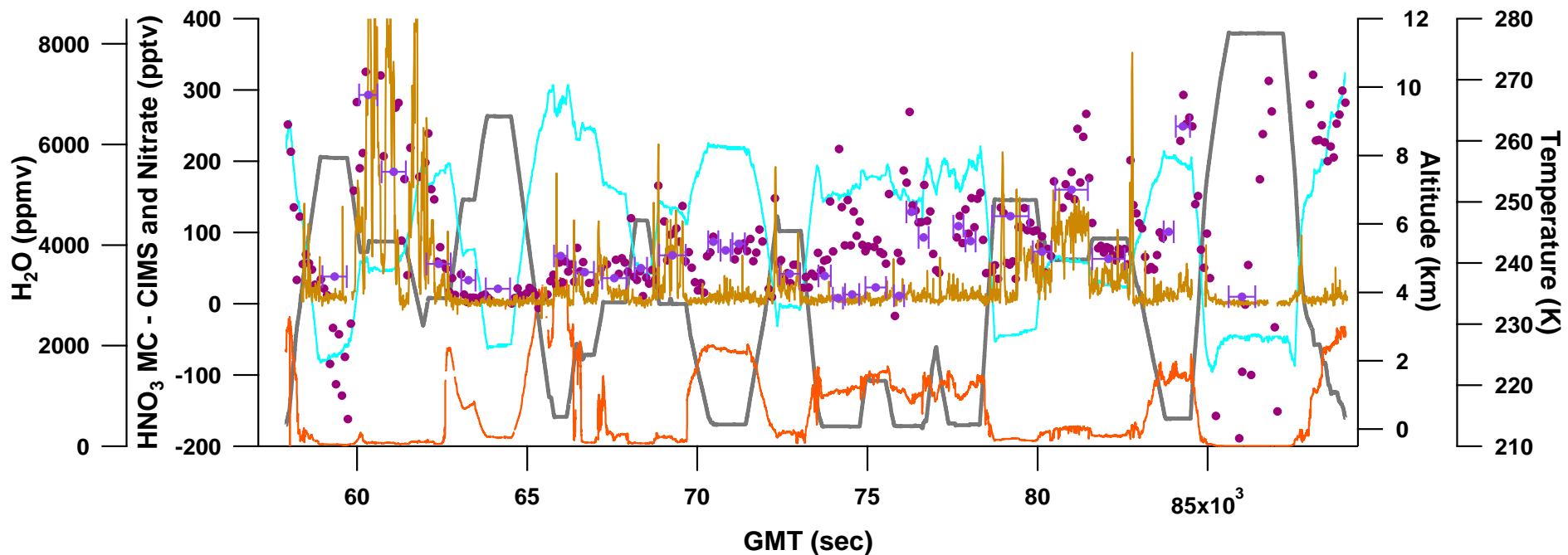
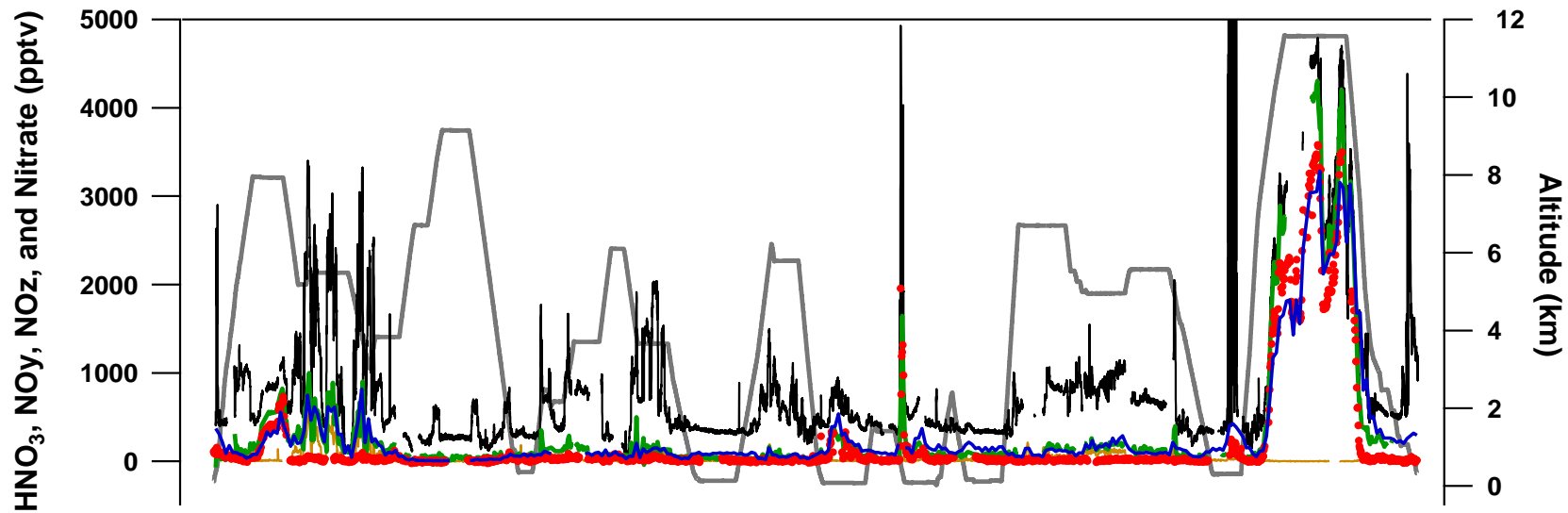
04/09/2008

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— NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



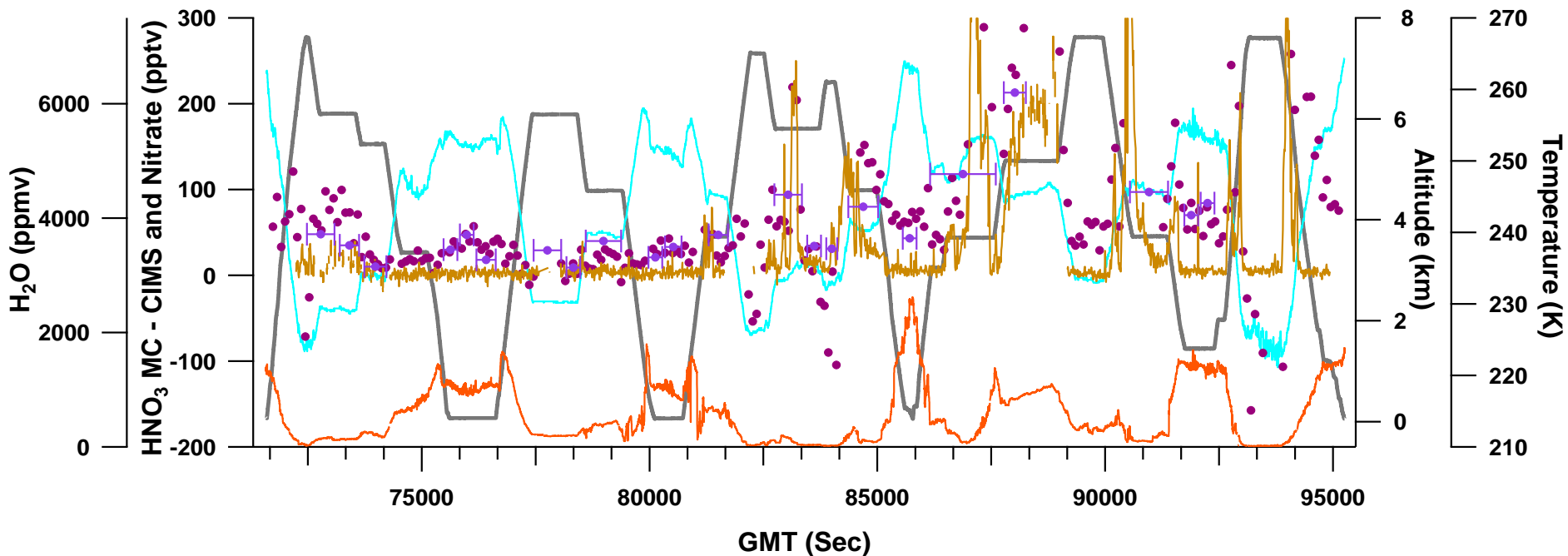
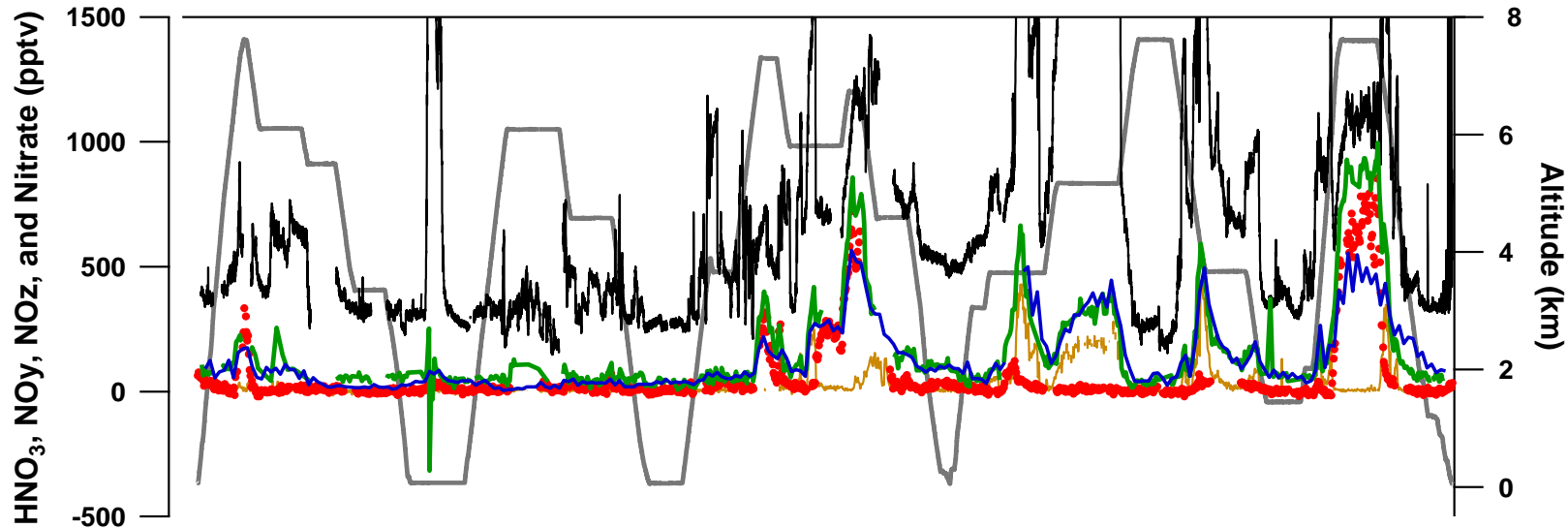
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— NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



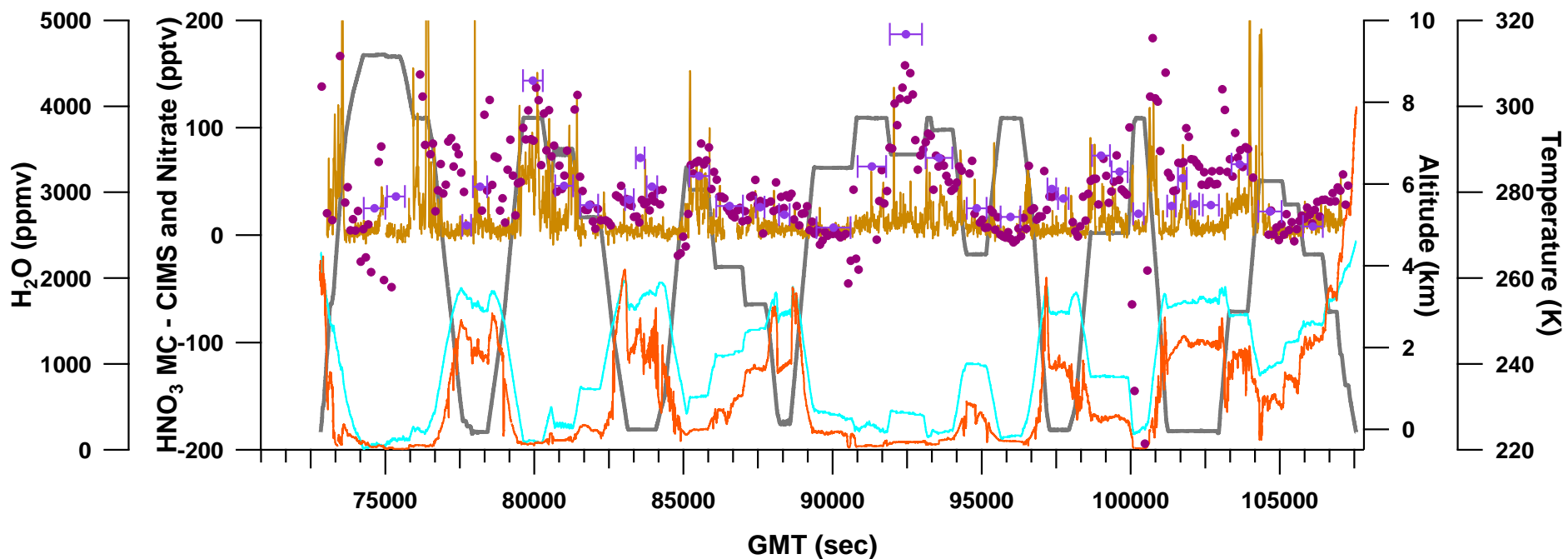
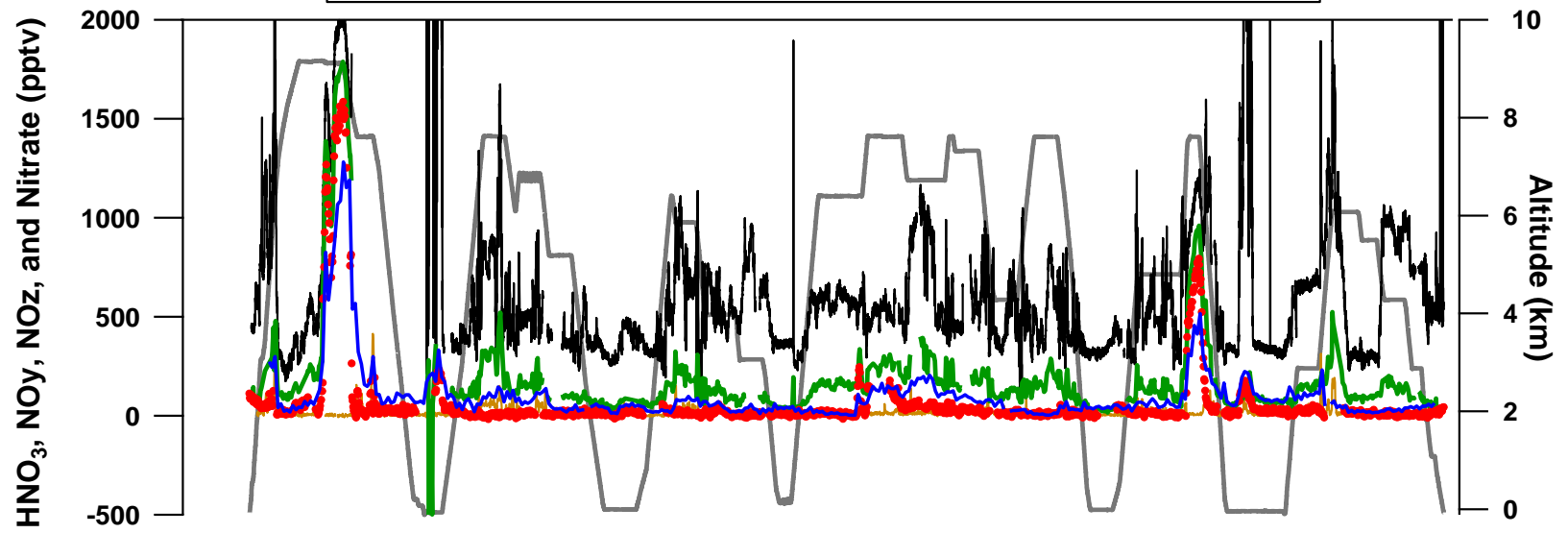
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— NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



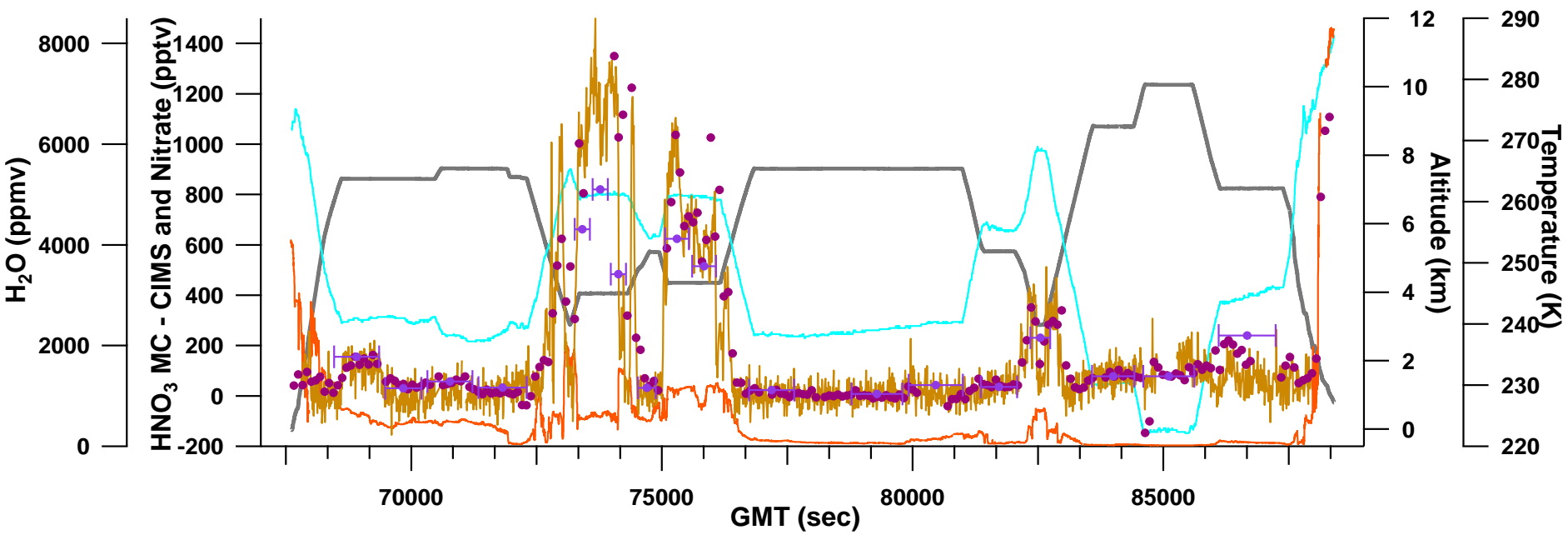
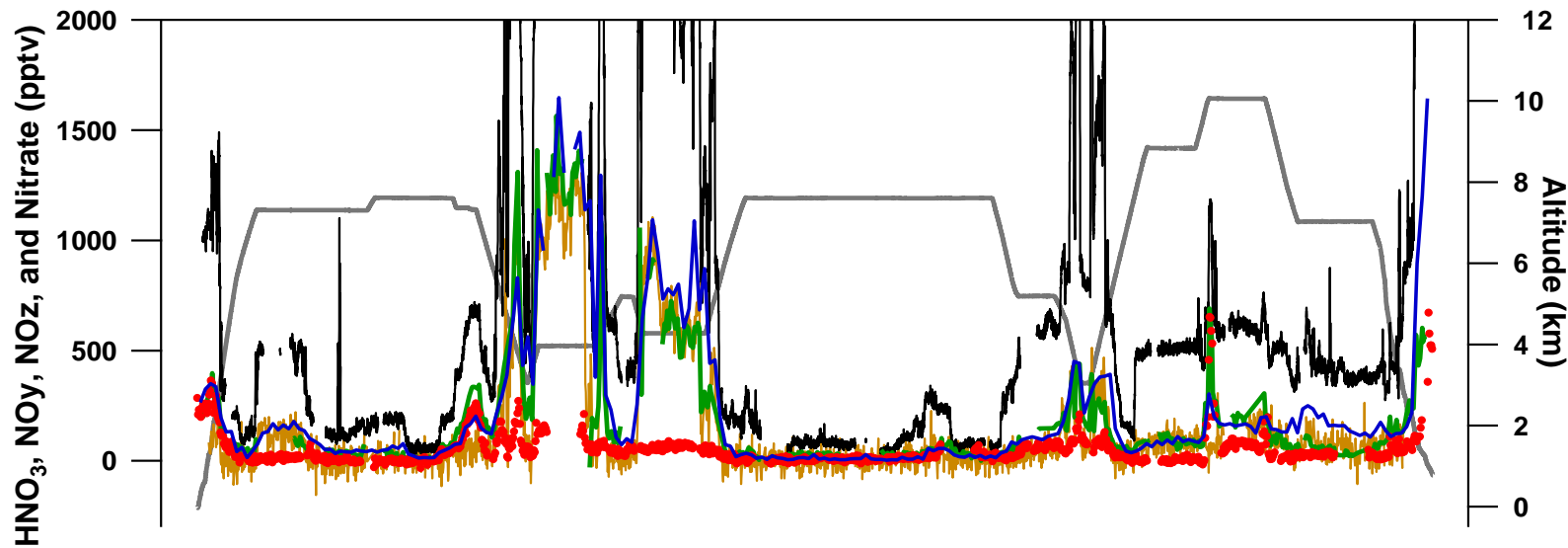
**04/17/2008**

— MC HNO<sub>3</sub> R1    
 • CIMS HNO<sub>3</sub> R2    
 — NO<sub>y</sub> R3    
 — AMS NO<sub>3</sub> R2    
 • Filter NO<sub>3</sub> R1  
— NO<sub>z</sub>    
 • delta (HNO<sub>3</sub>)    
— Temperature    
— DLH H<sub>2</sub>O R1



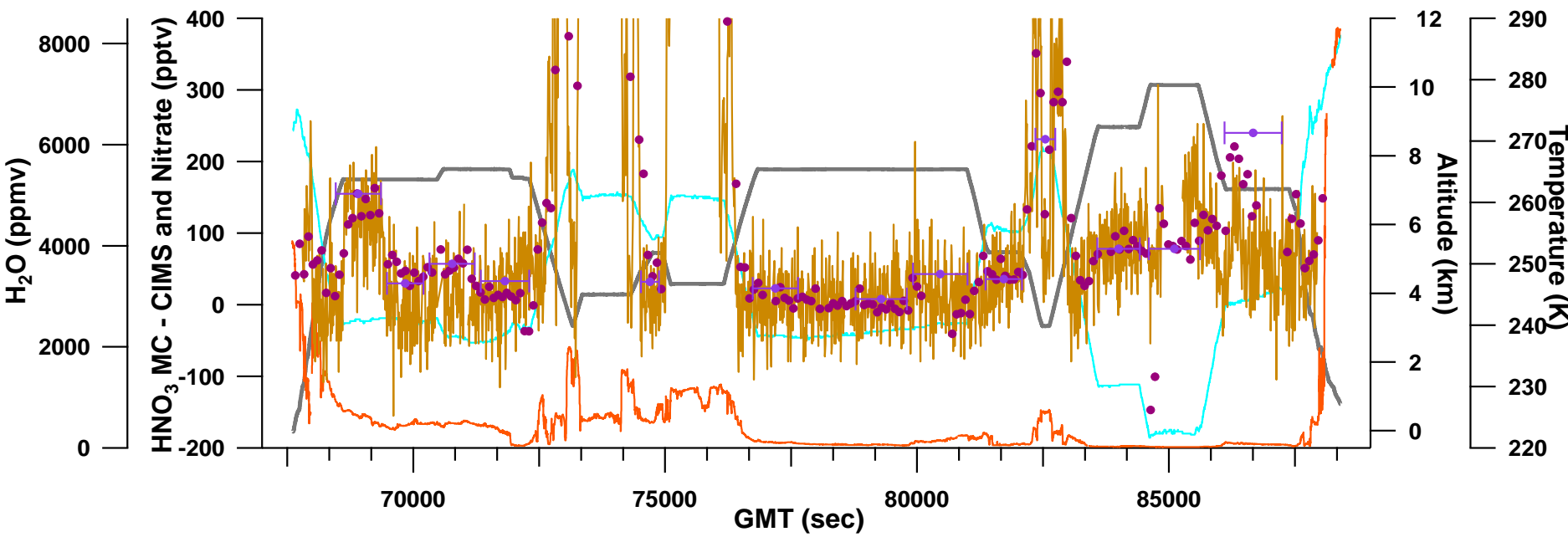
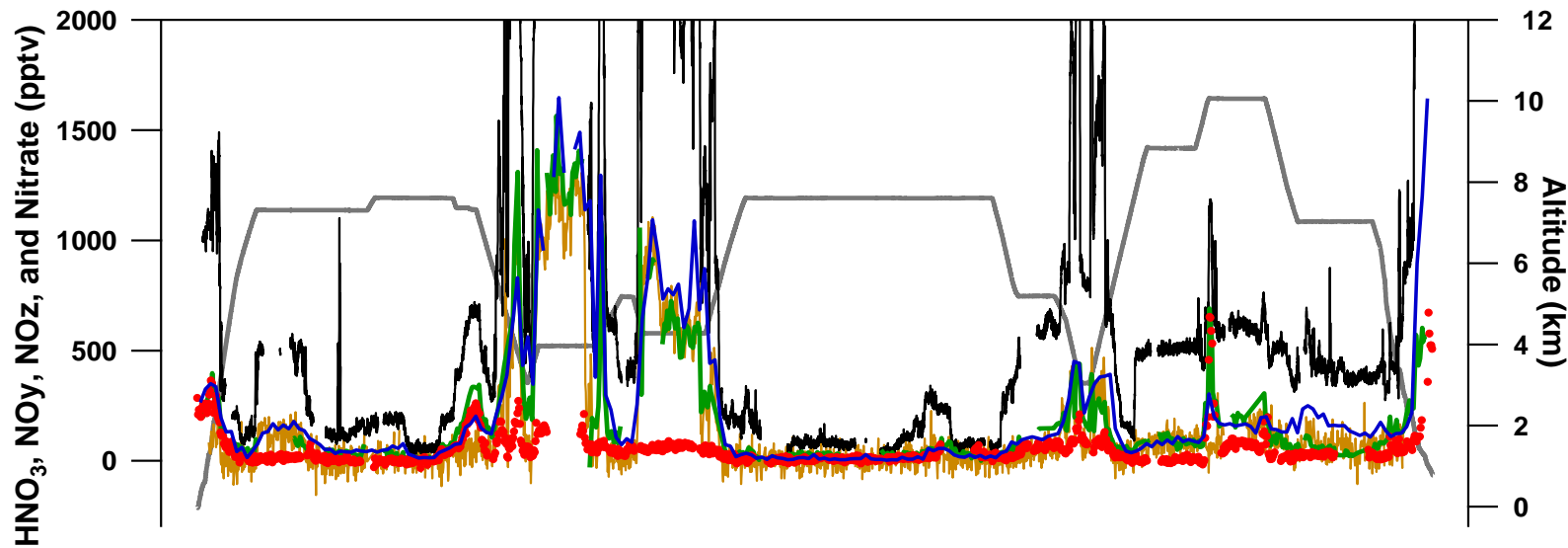
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— NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



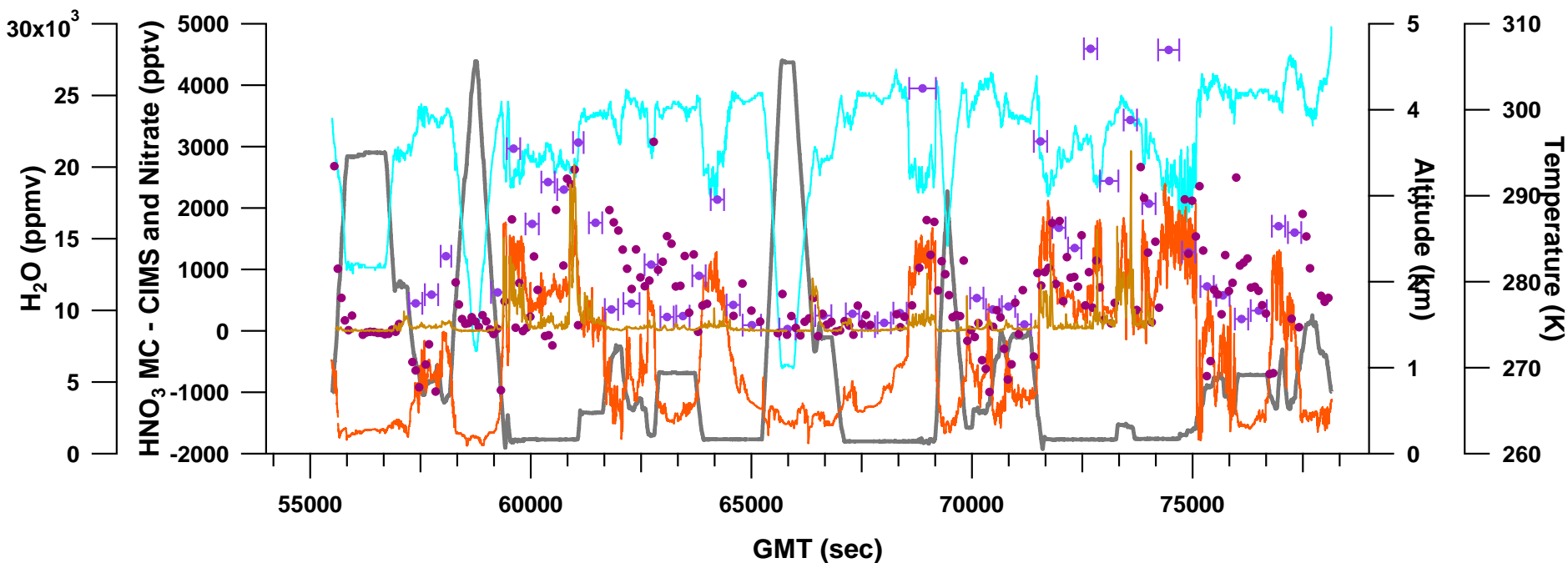
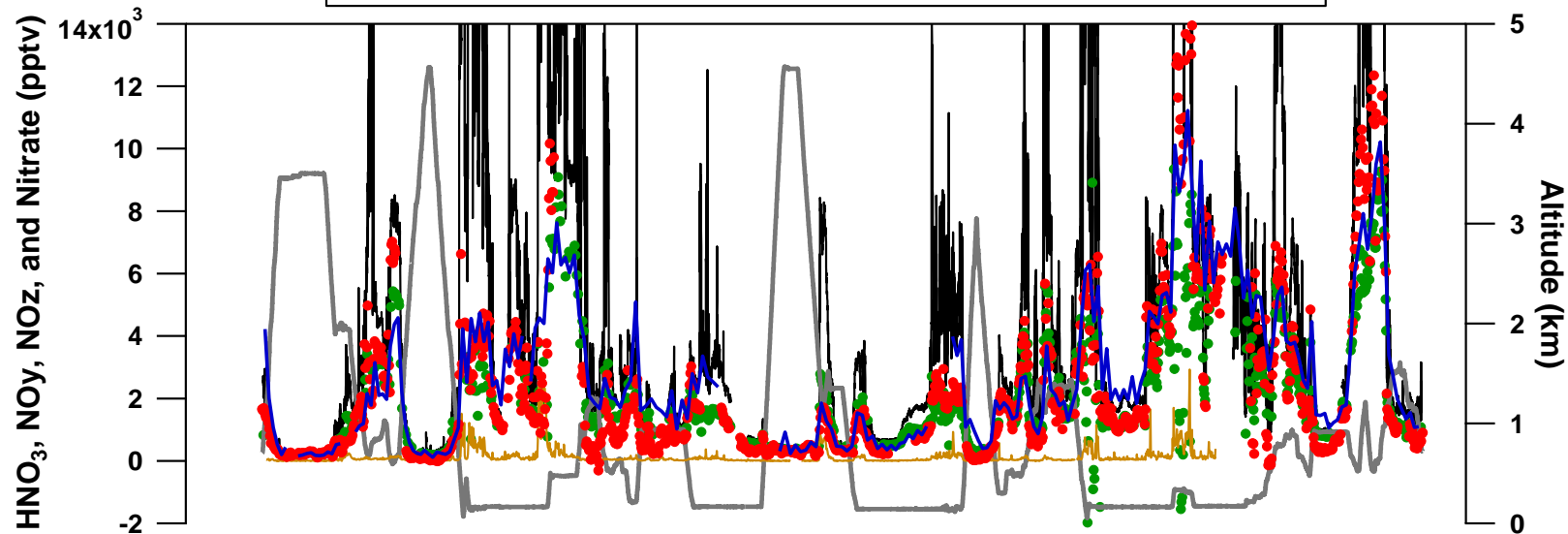
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— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
— NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



06/18/2008

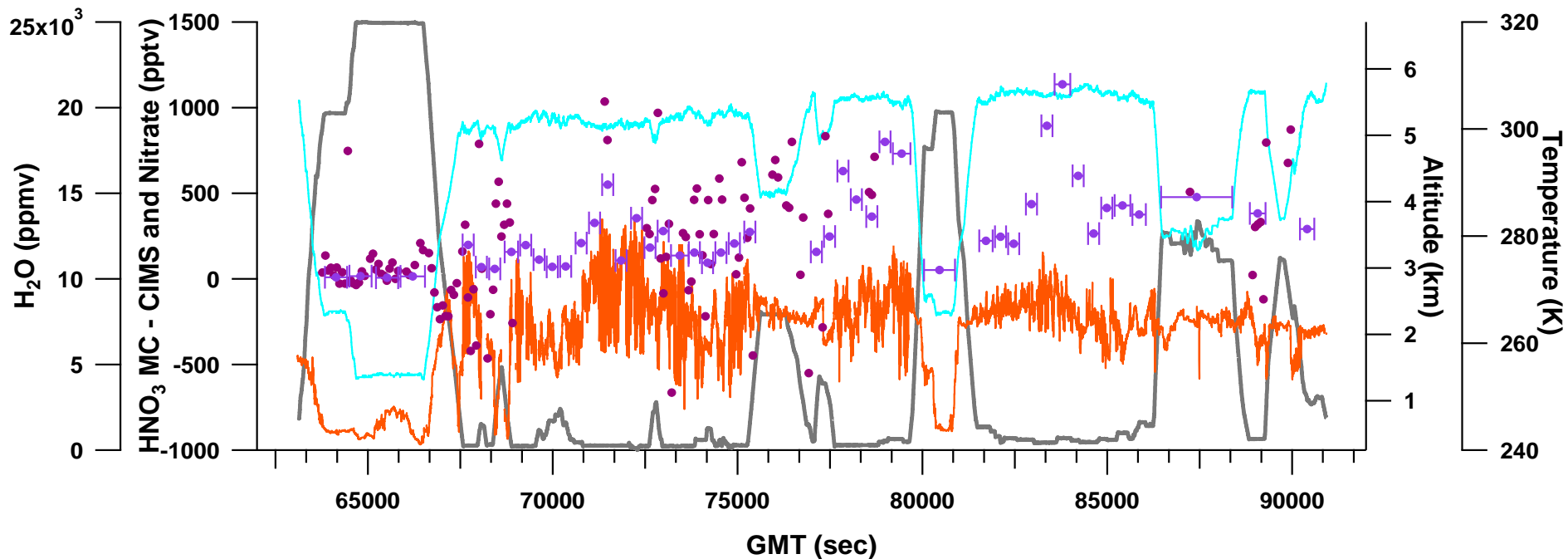
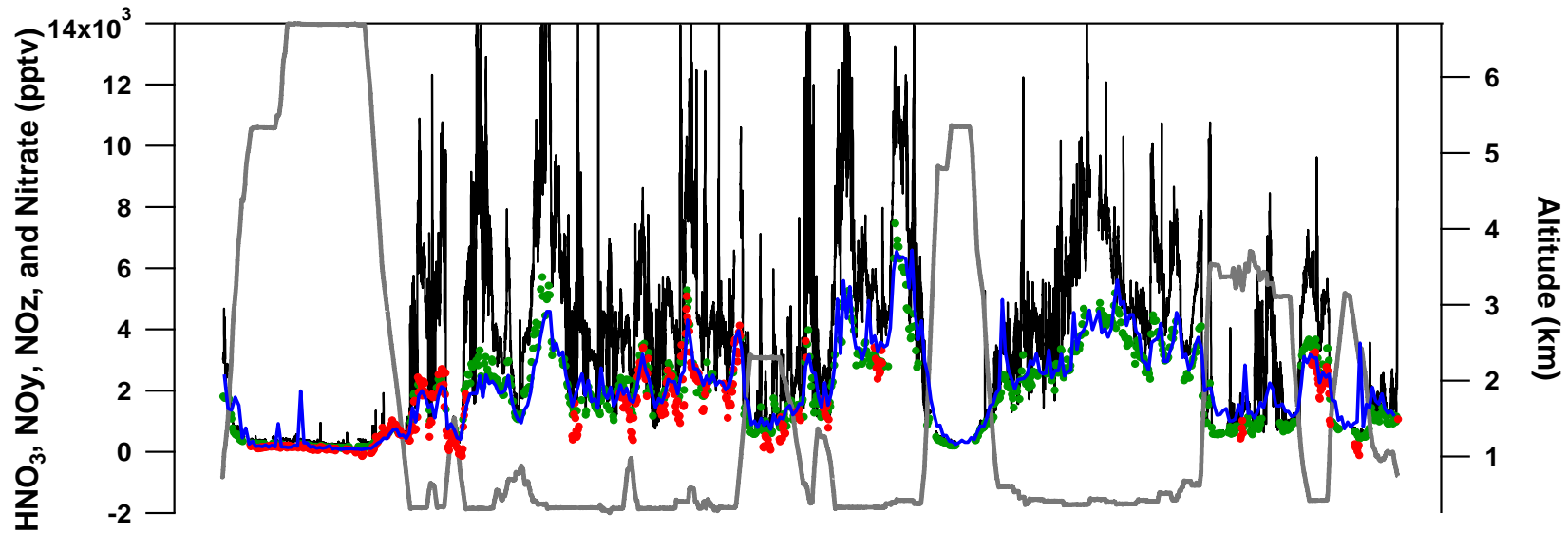
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• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





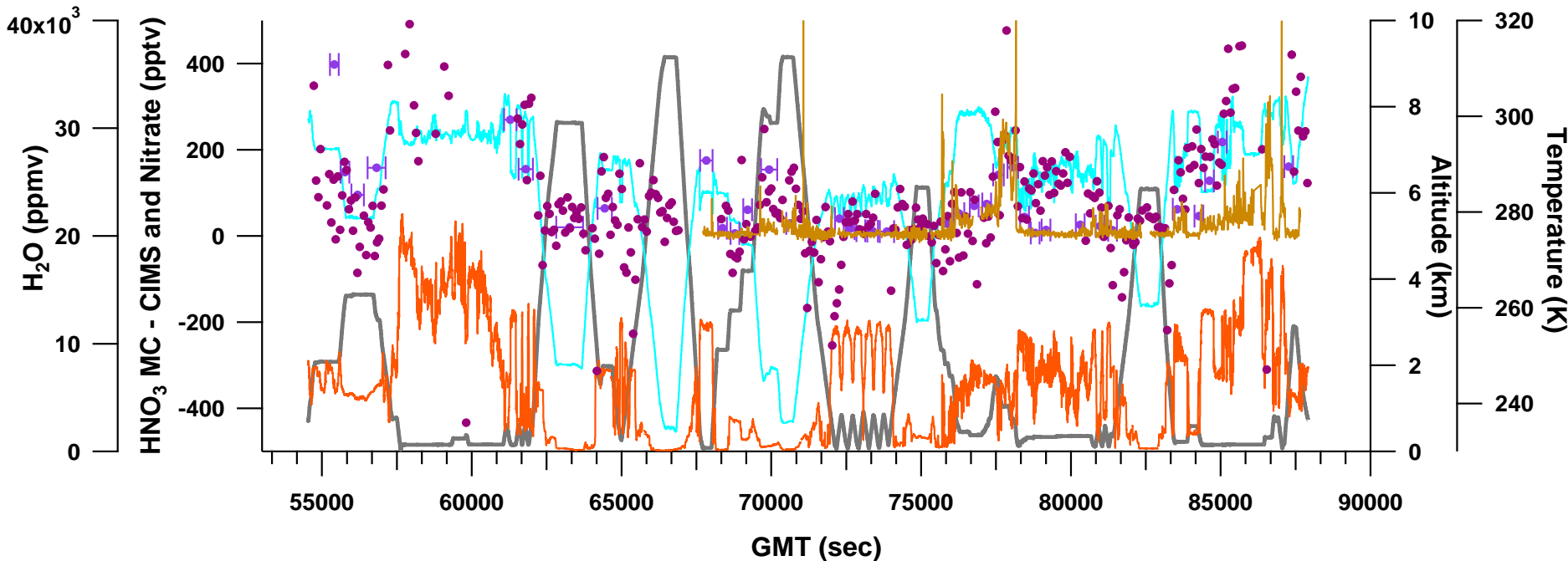
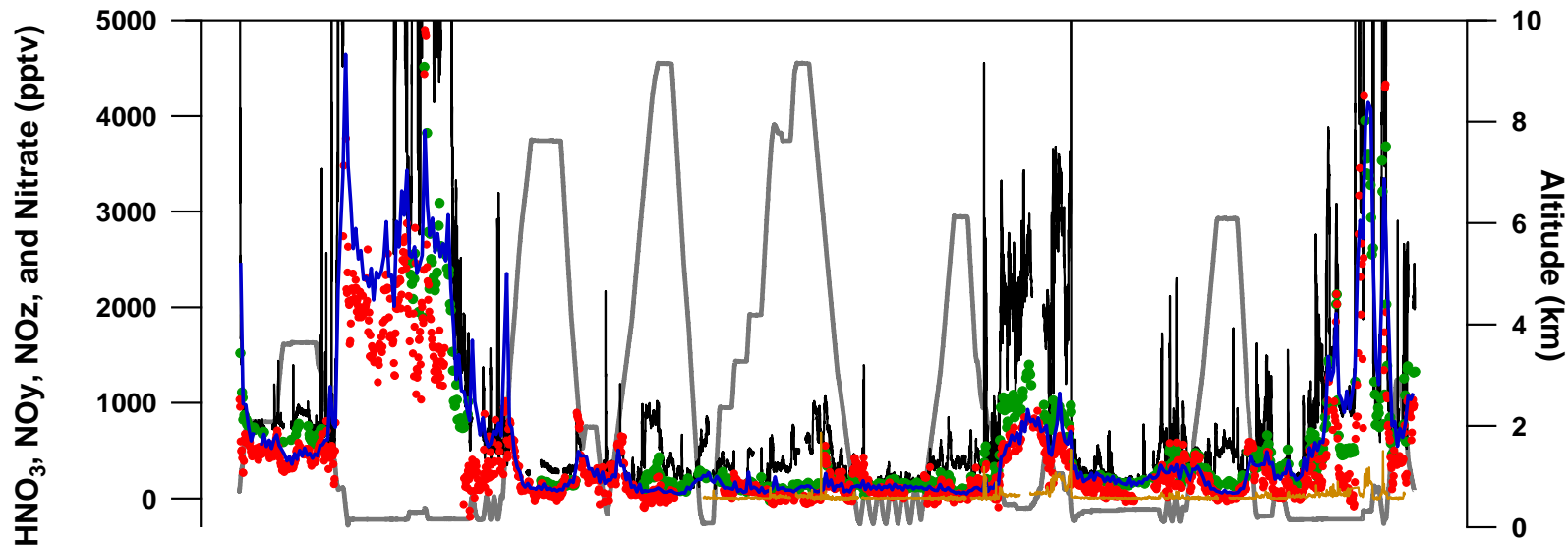
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— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R0  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O



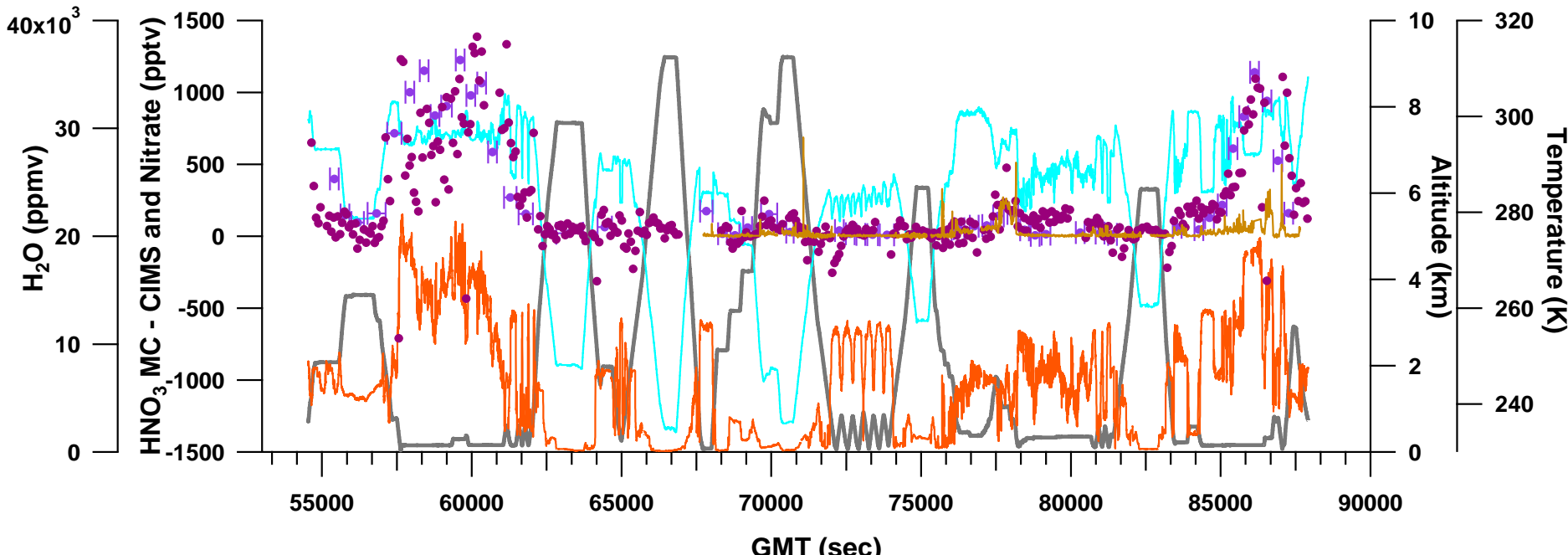
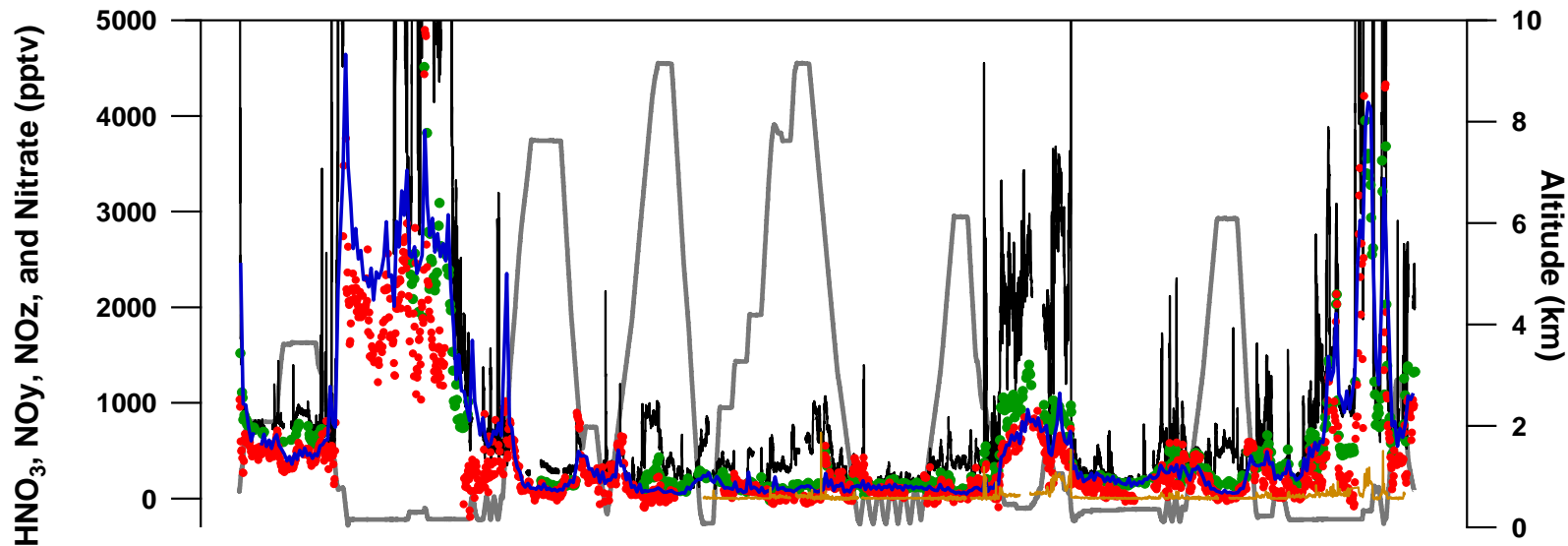
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— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



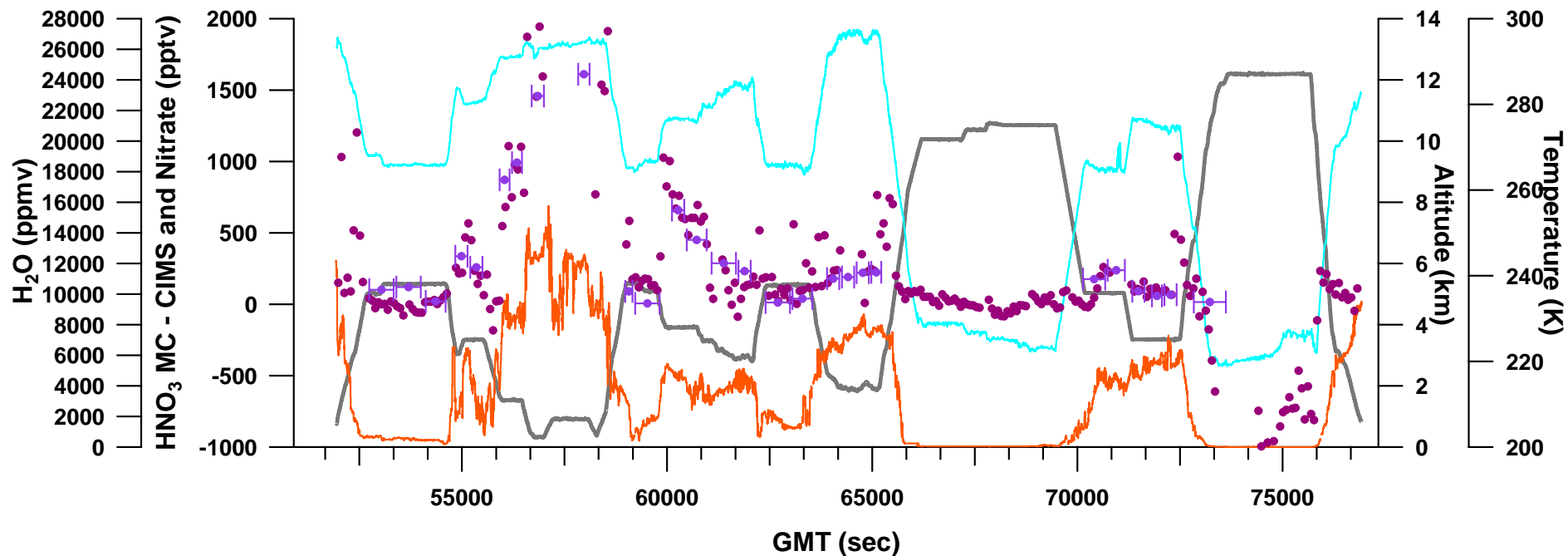
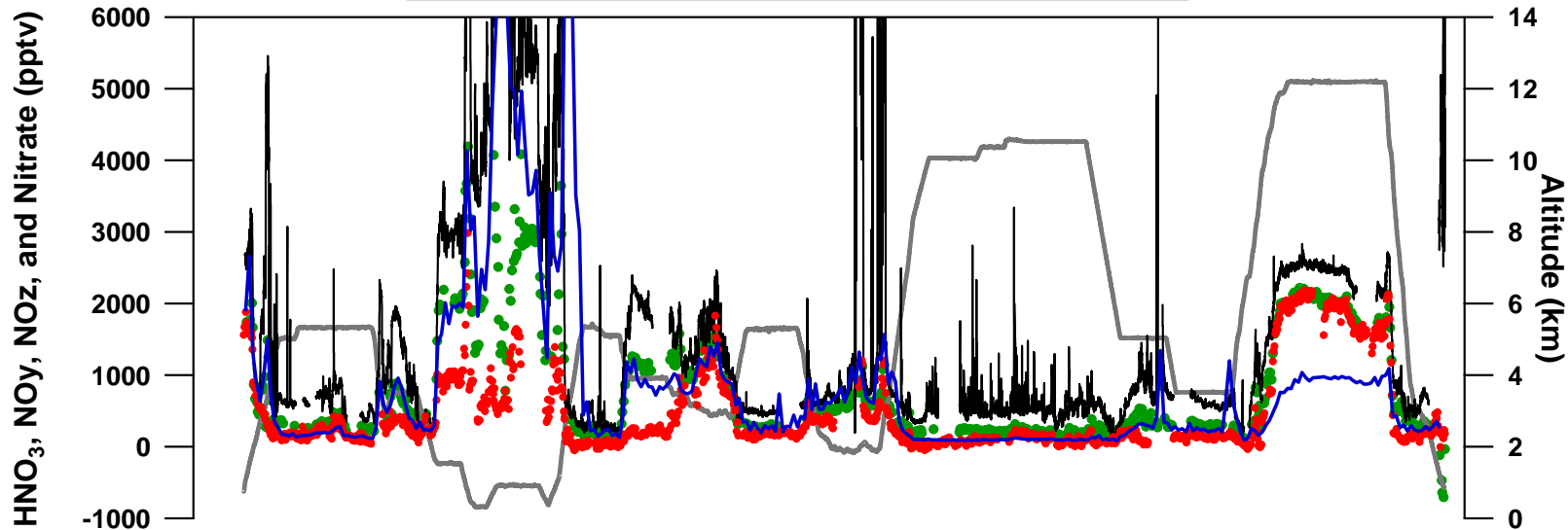
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• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



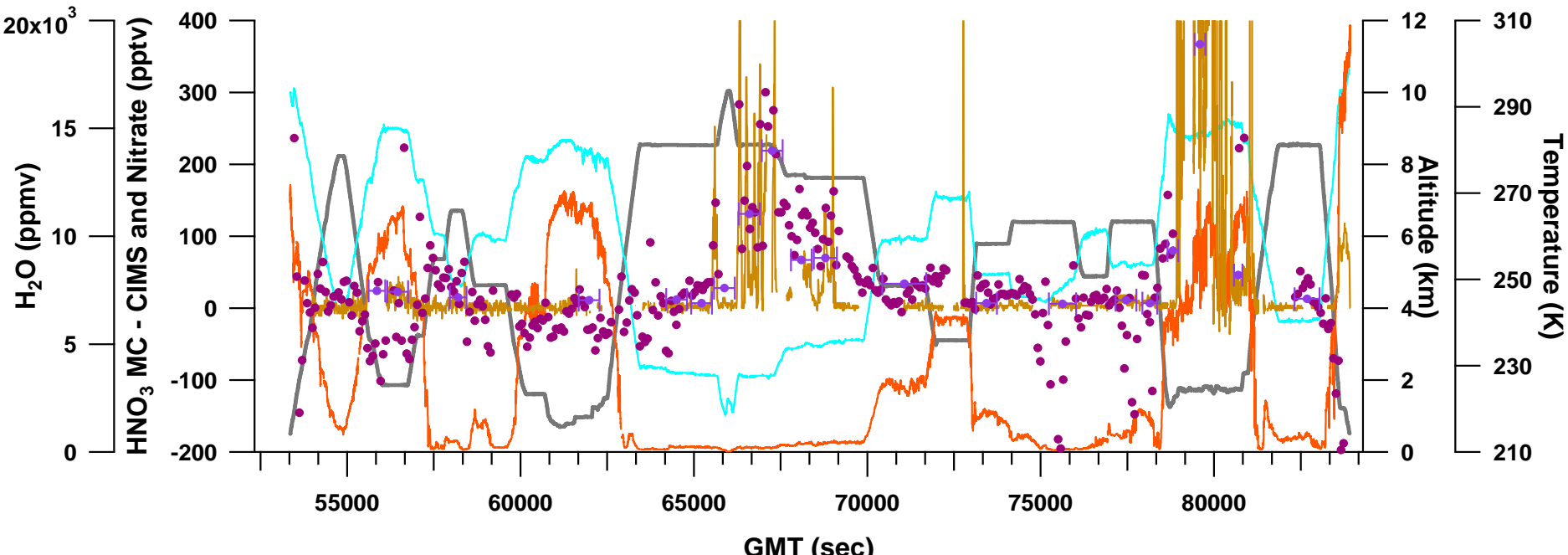
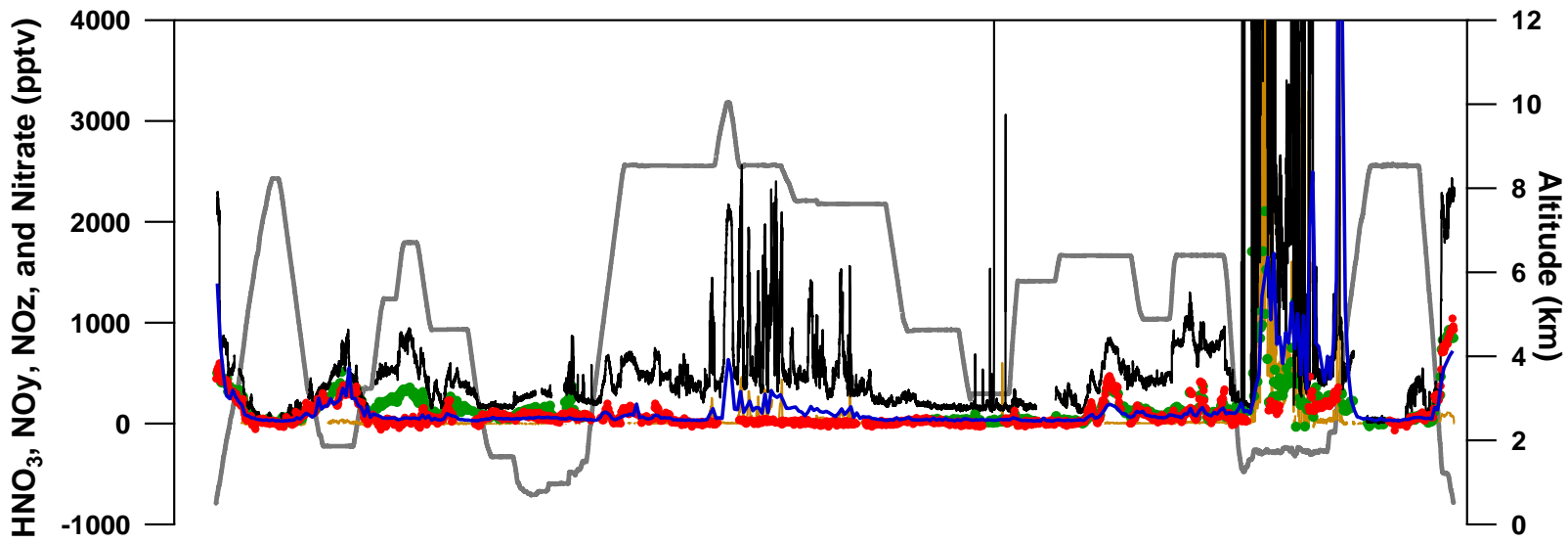
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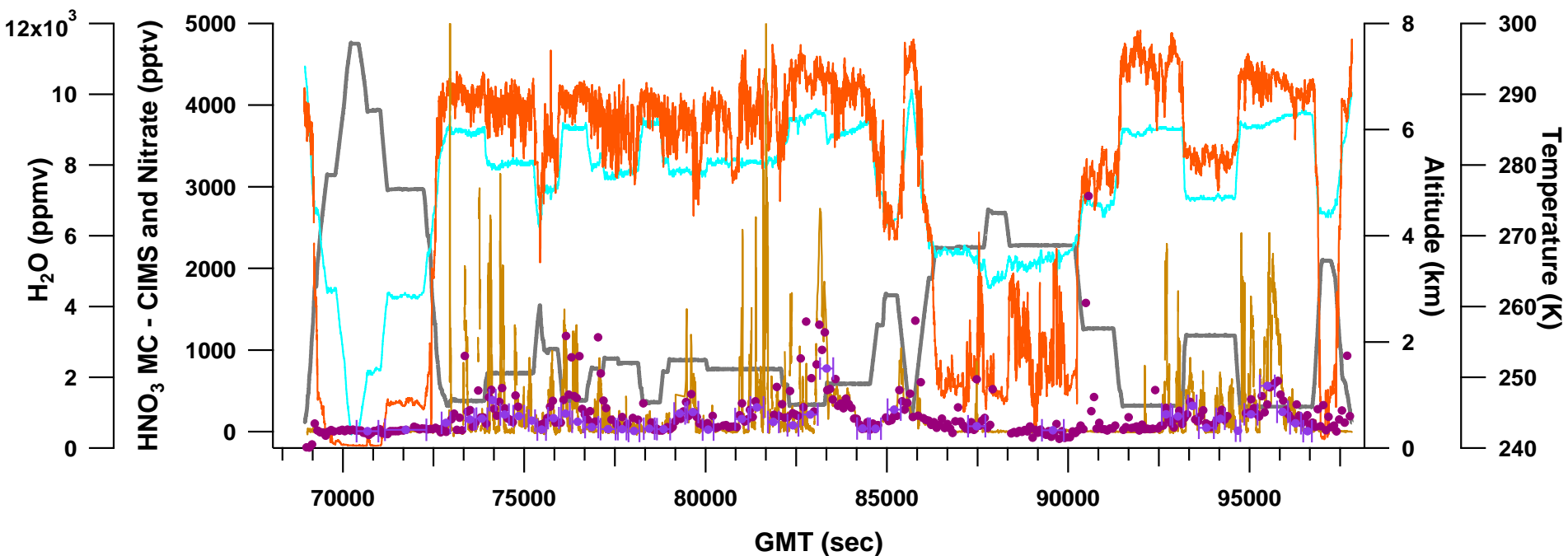
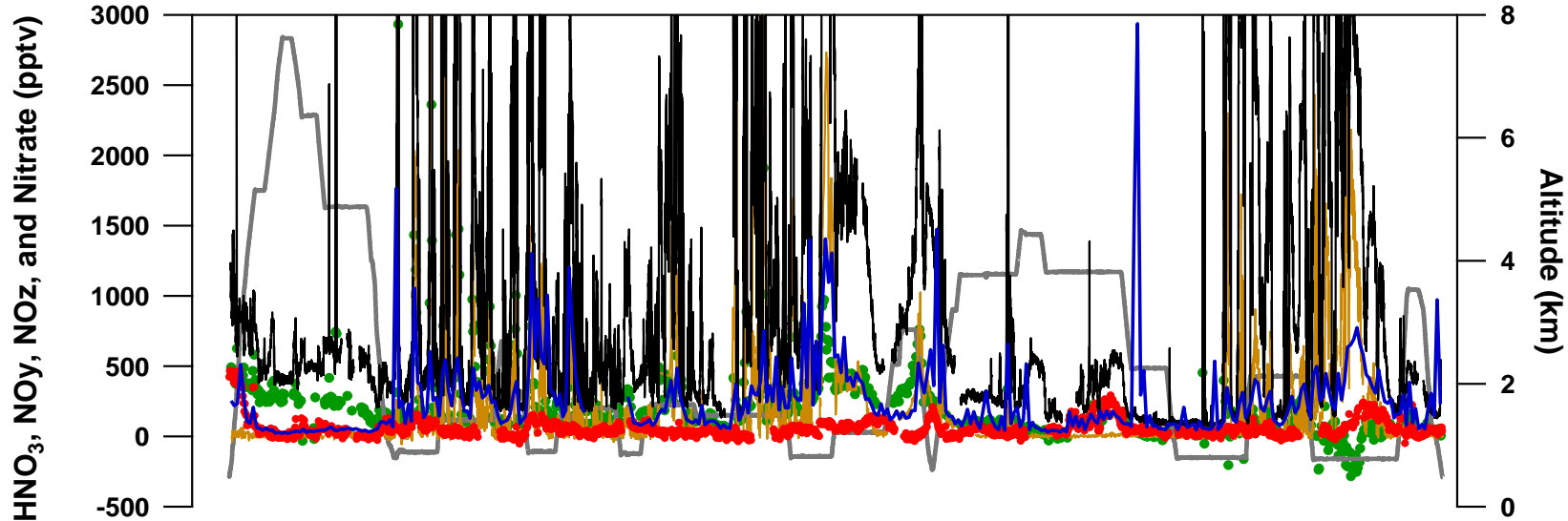
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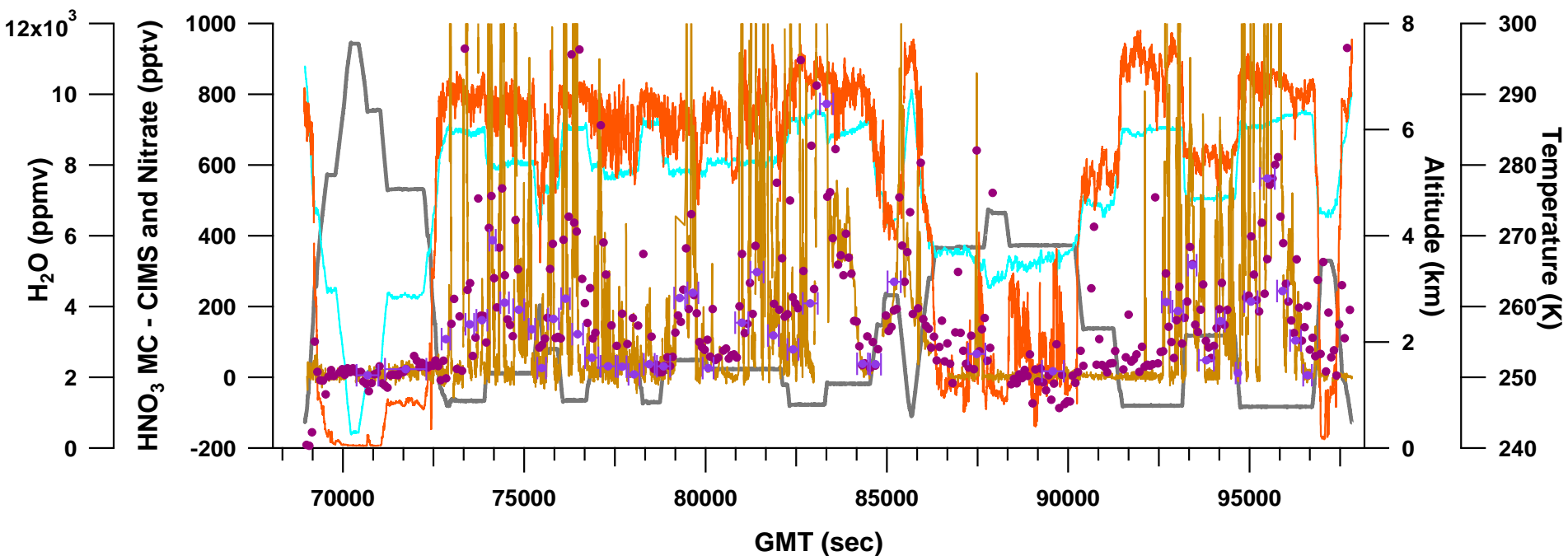
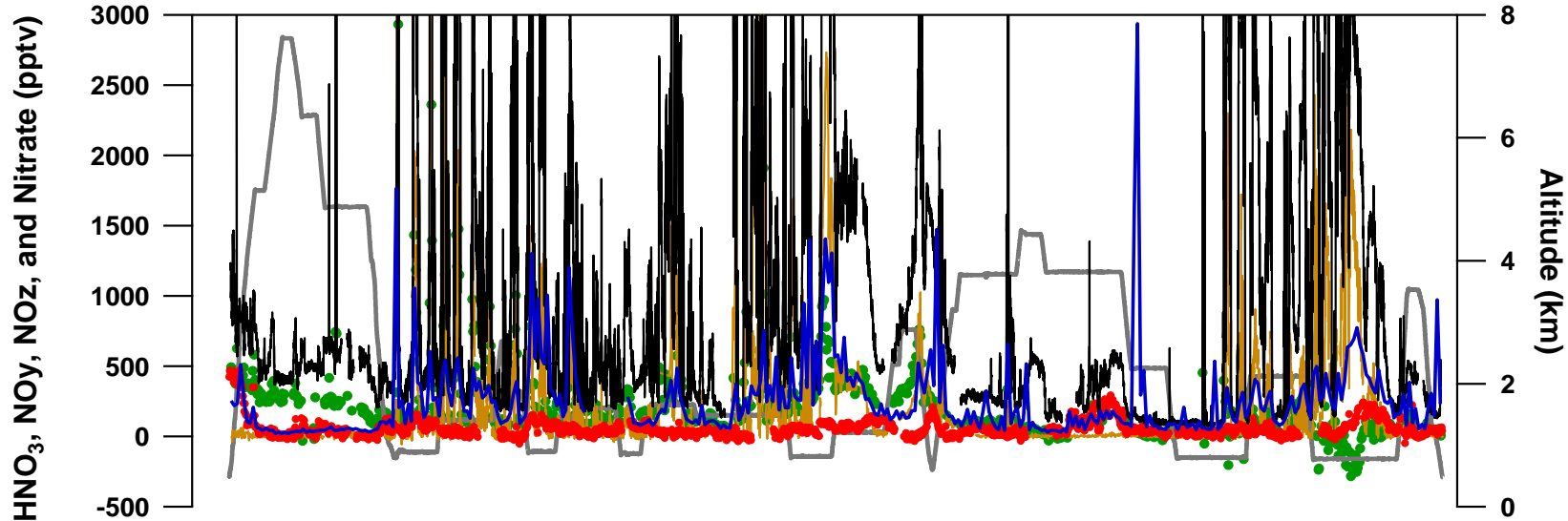
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• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



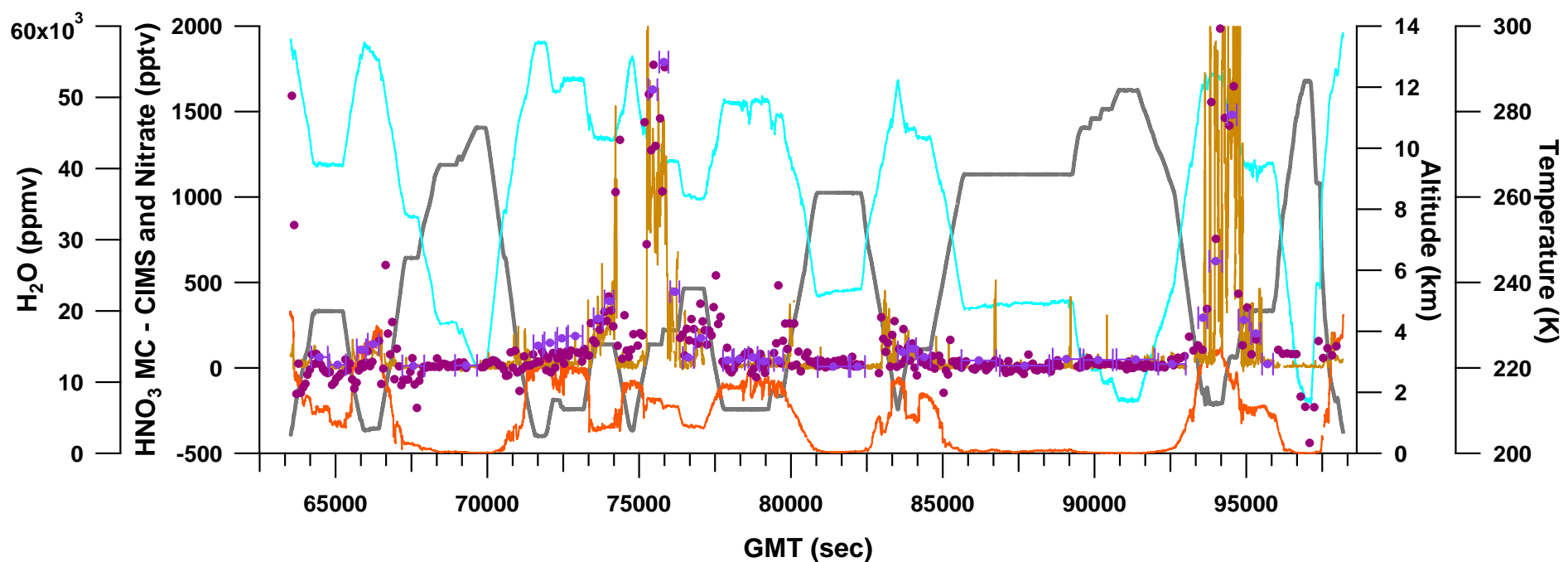
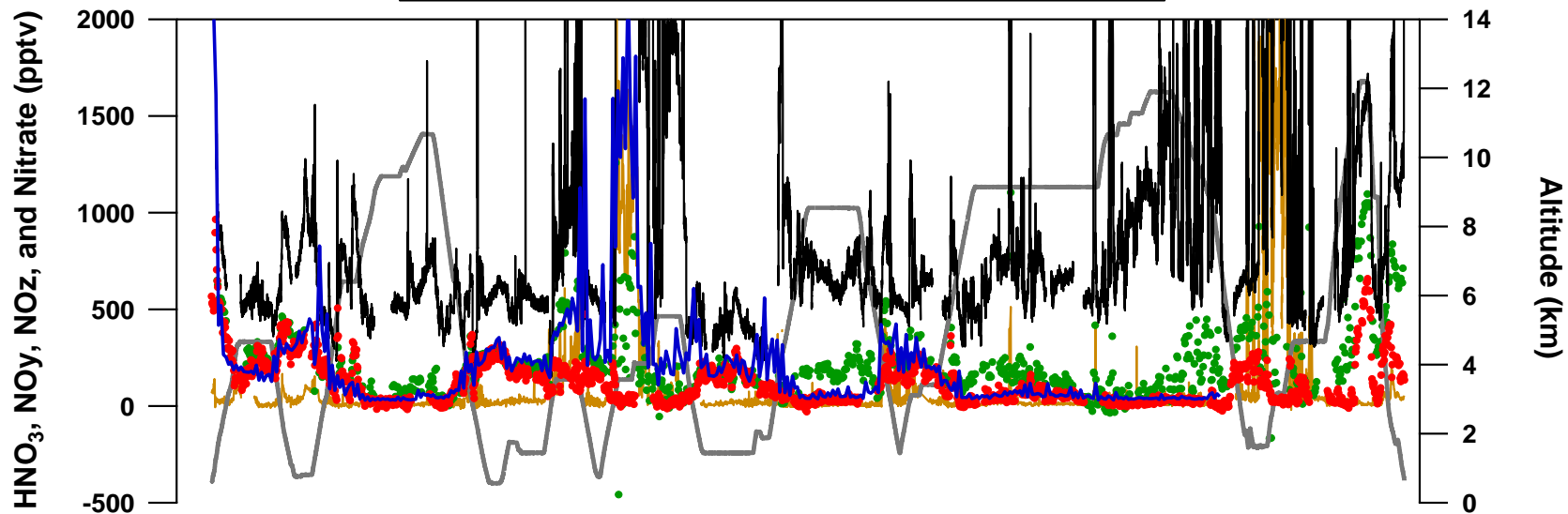
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• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



07/04/2008

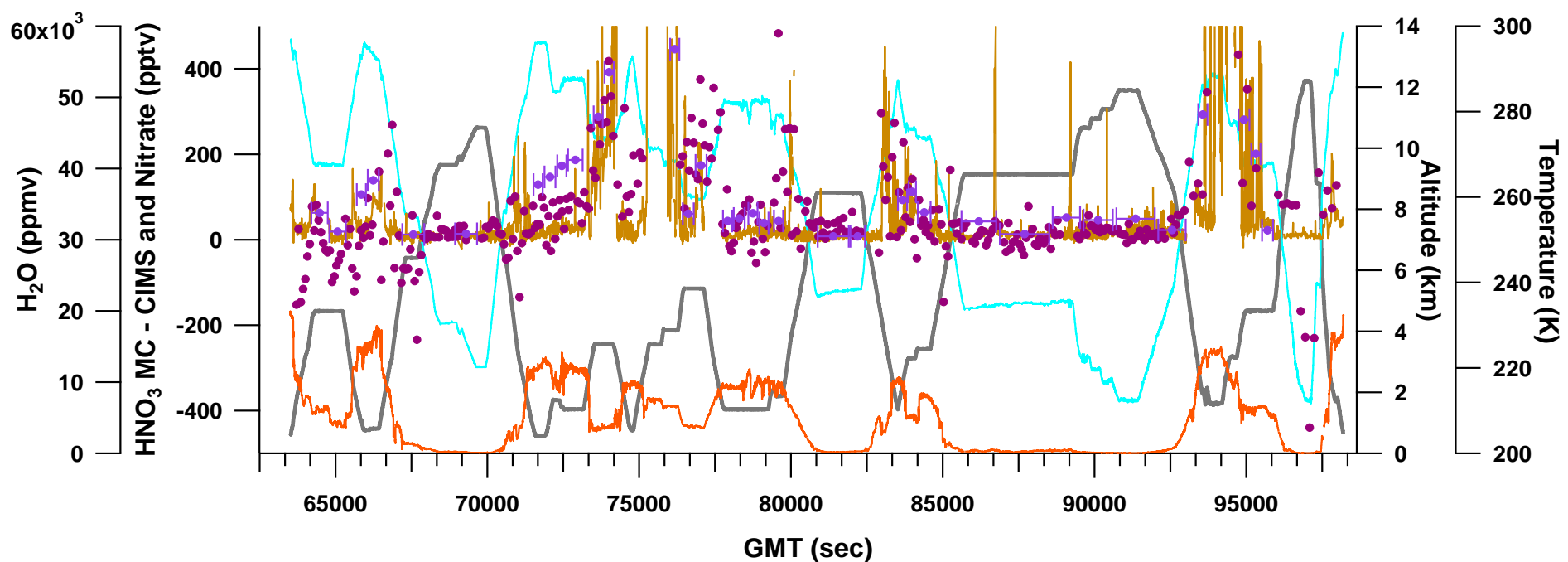
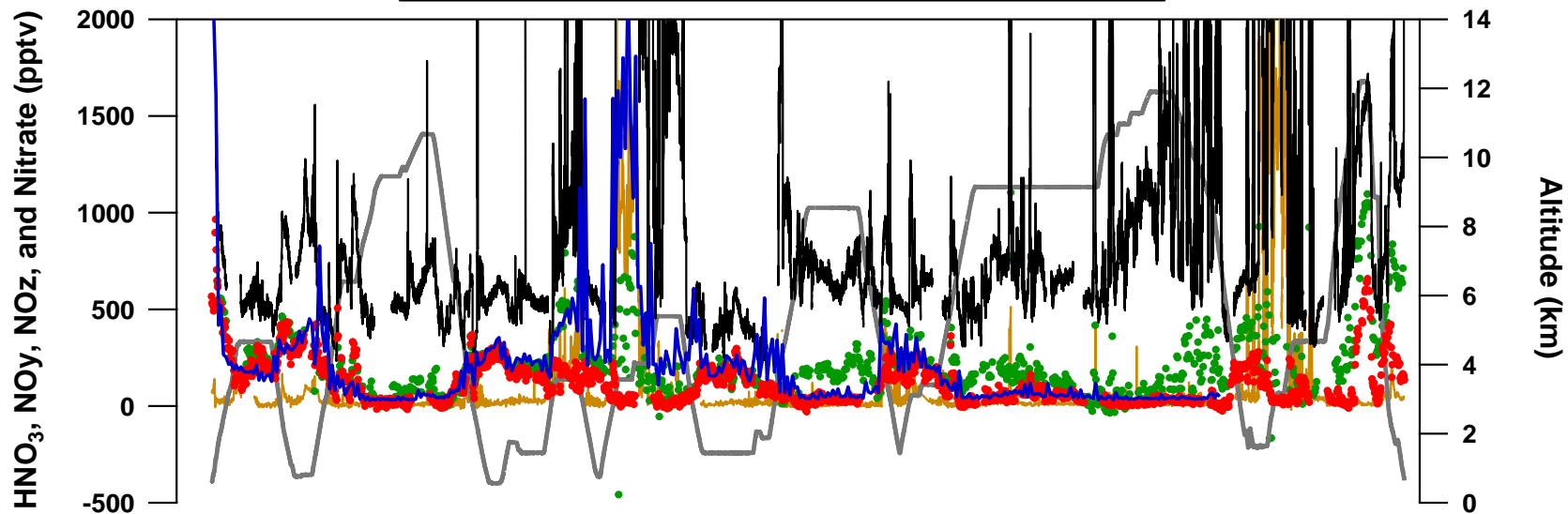
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• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





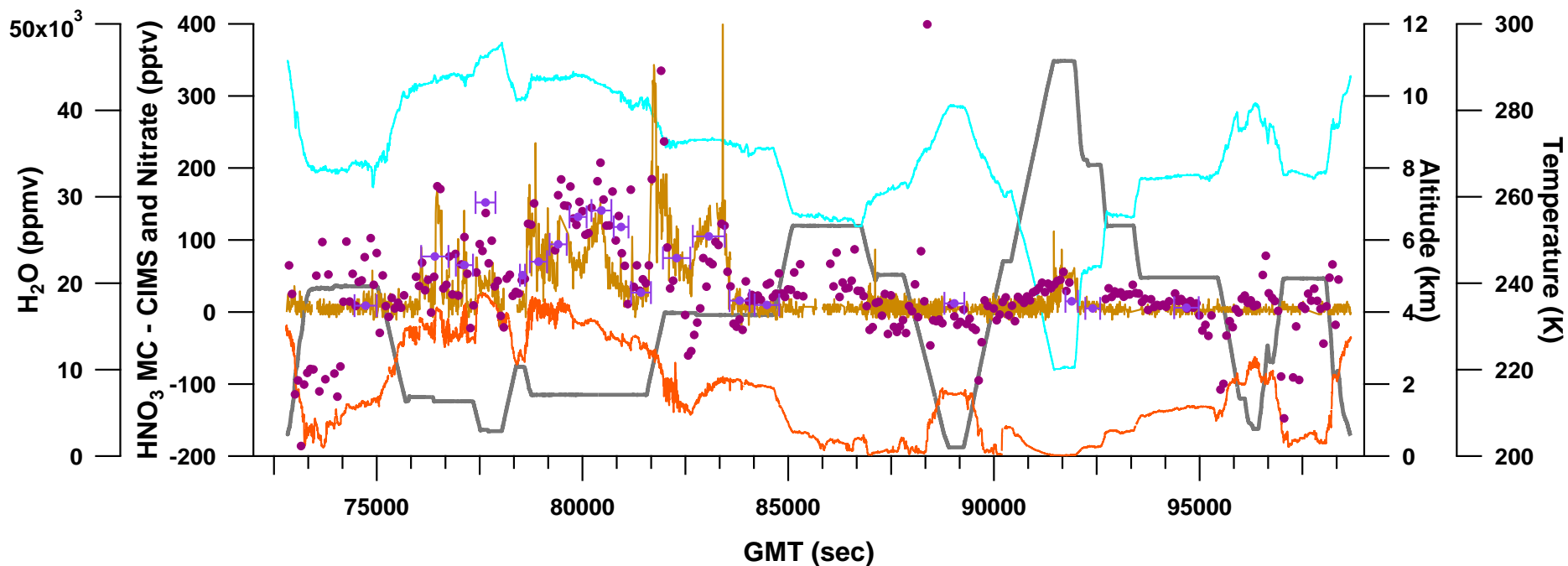
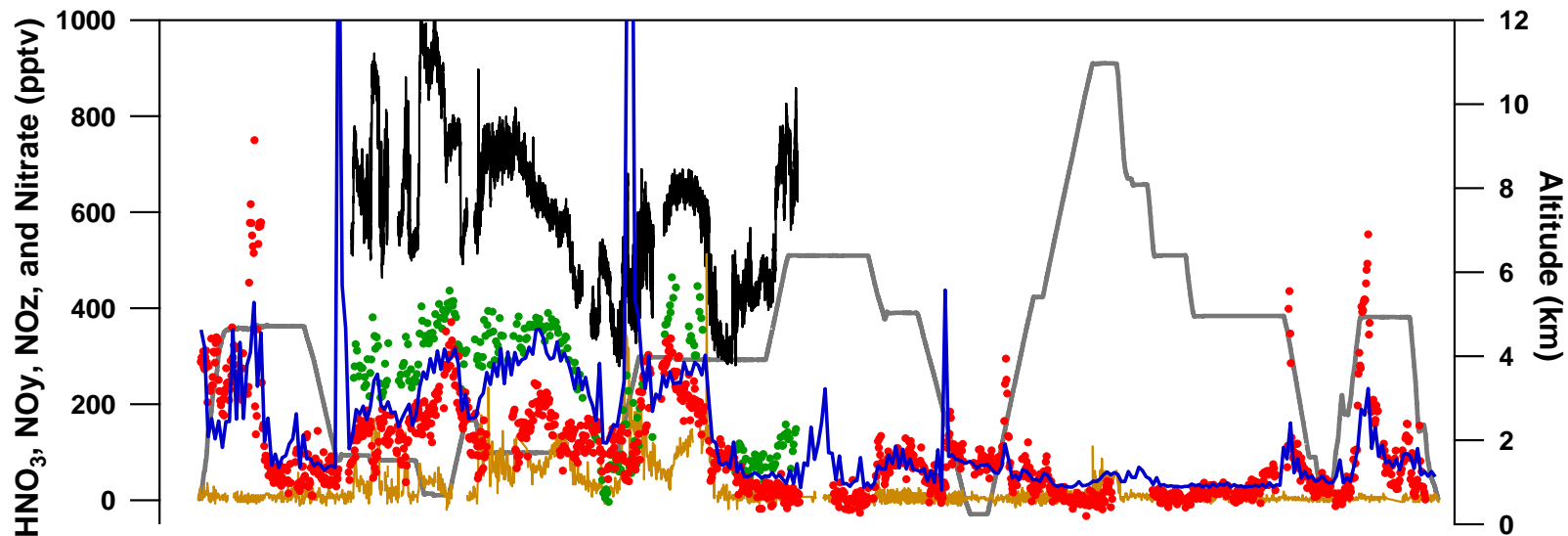
07/04/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



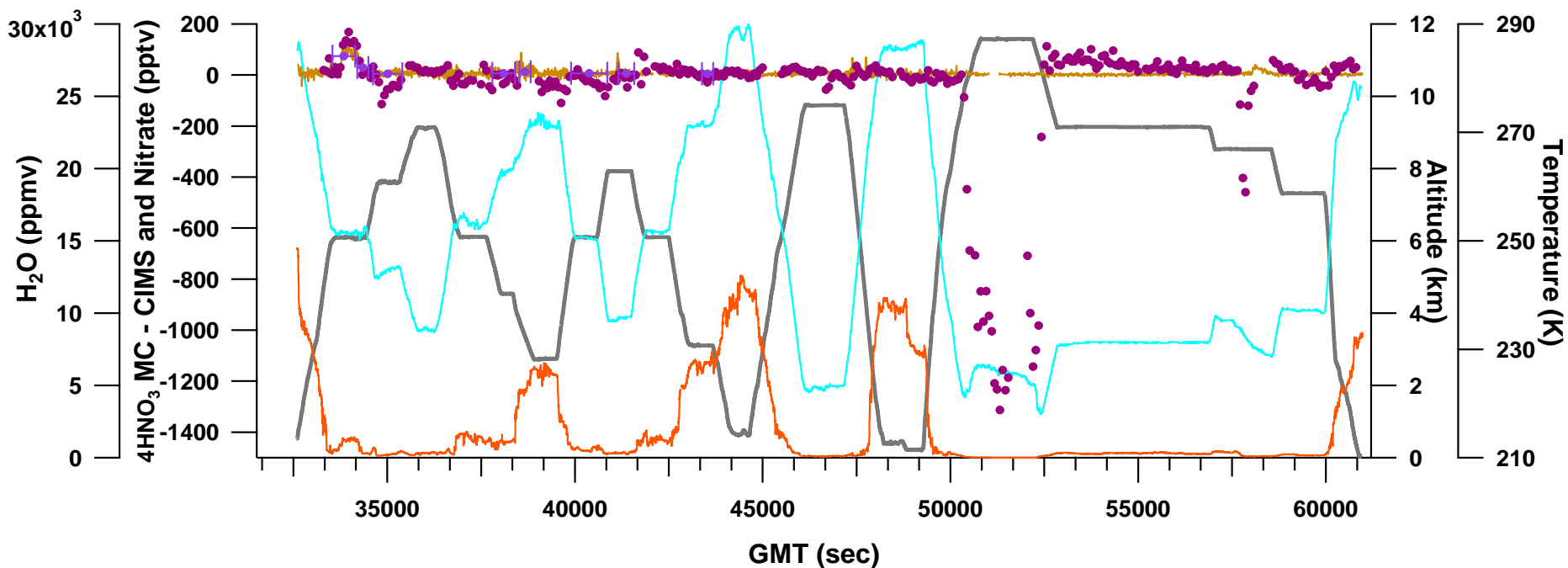
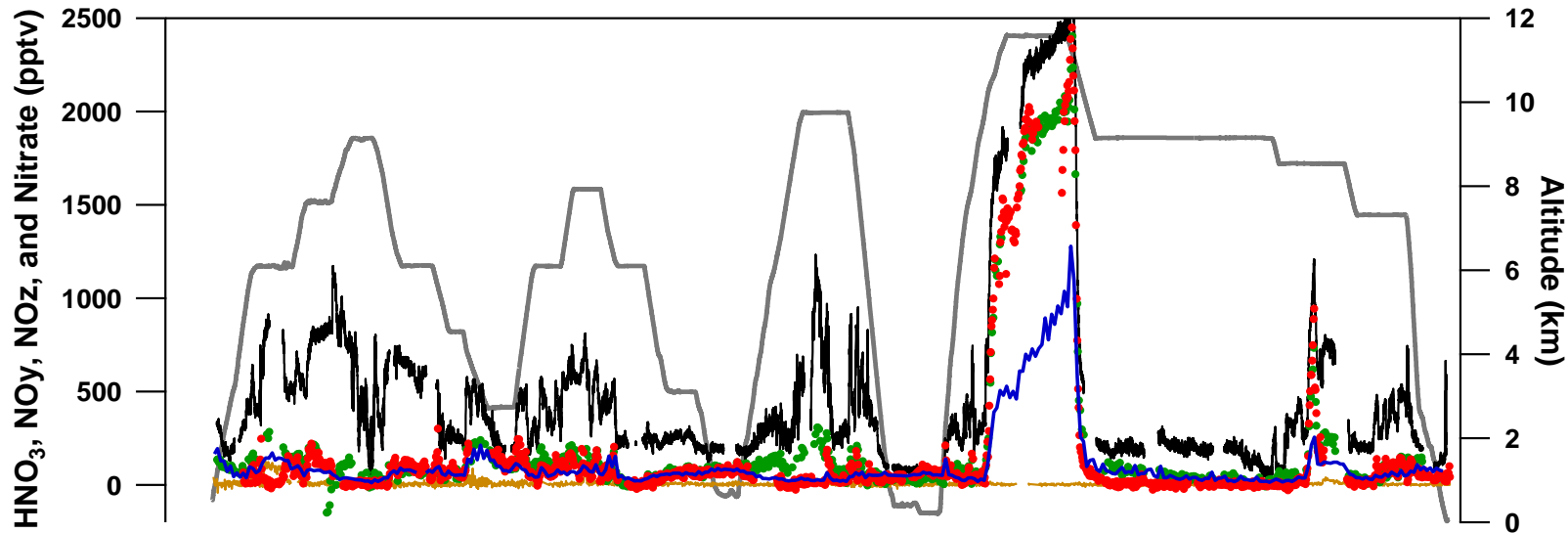
07/05/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



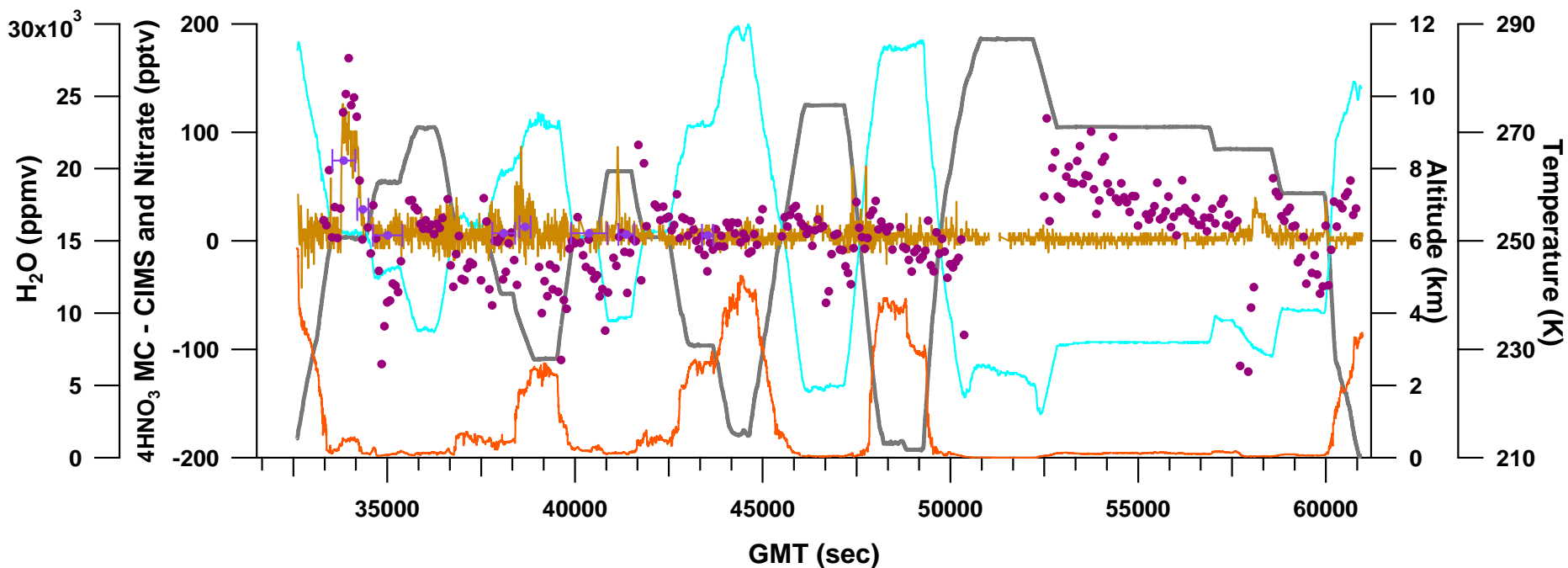
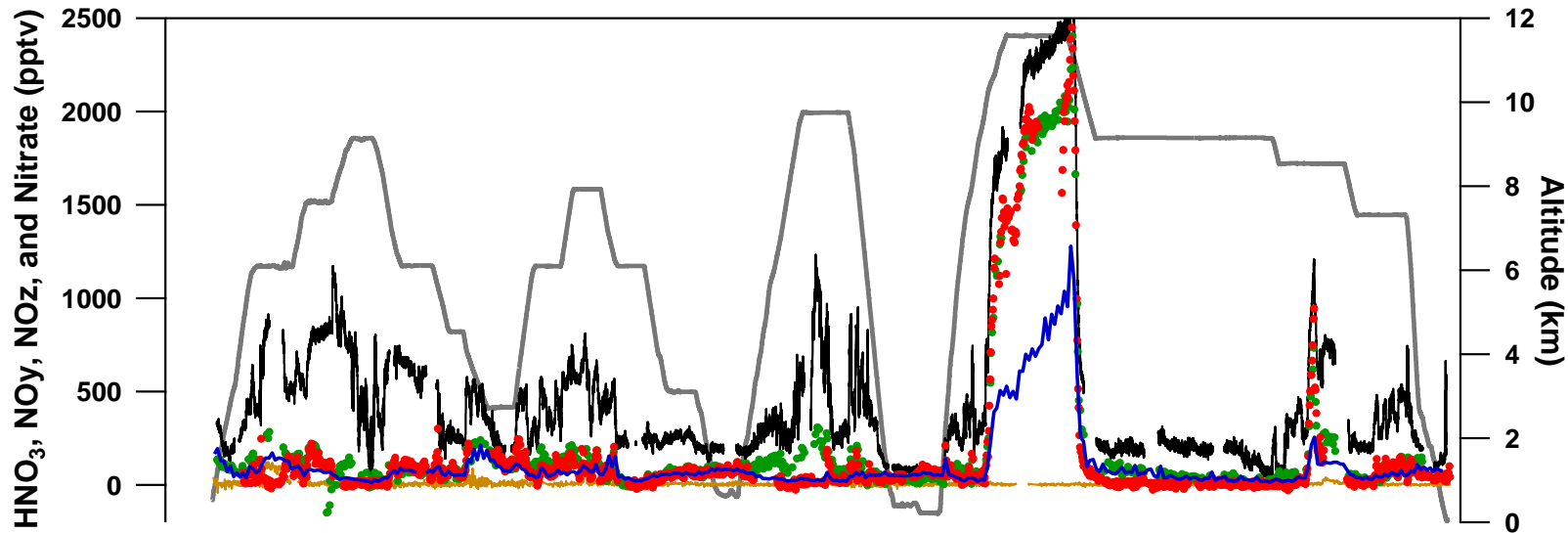
07/08/2008

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• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



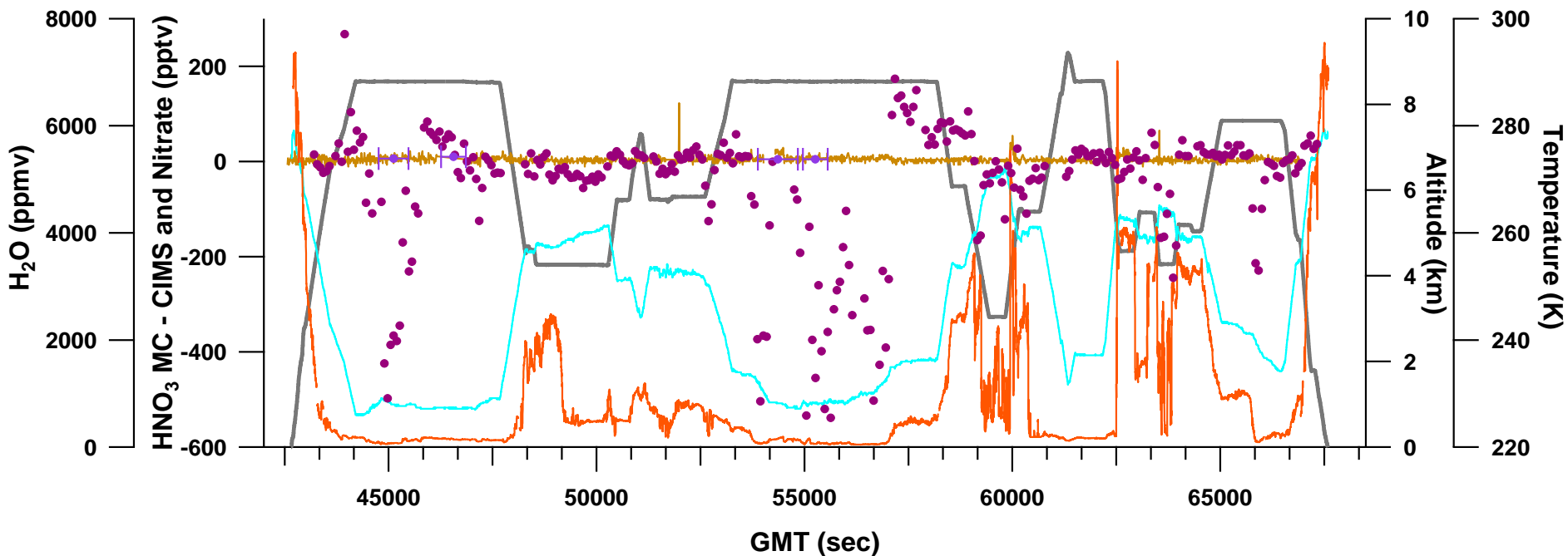
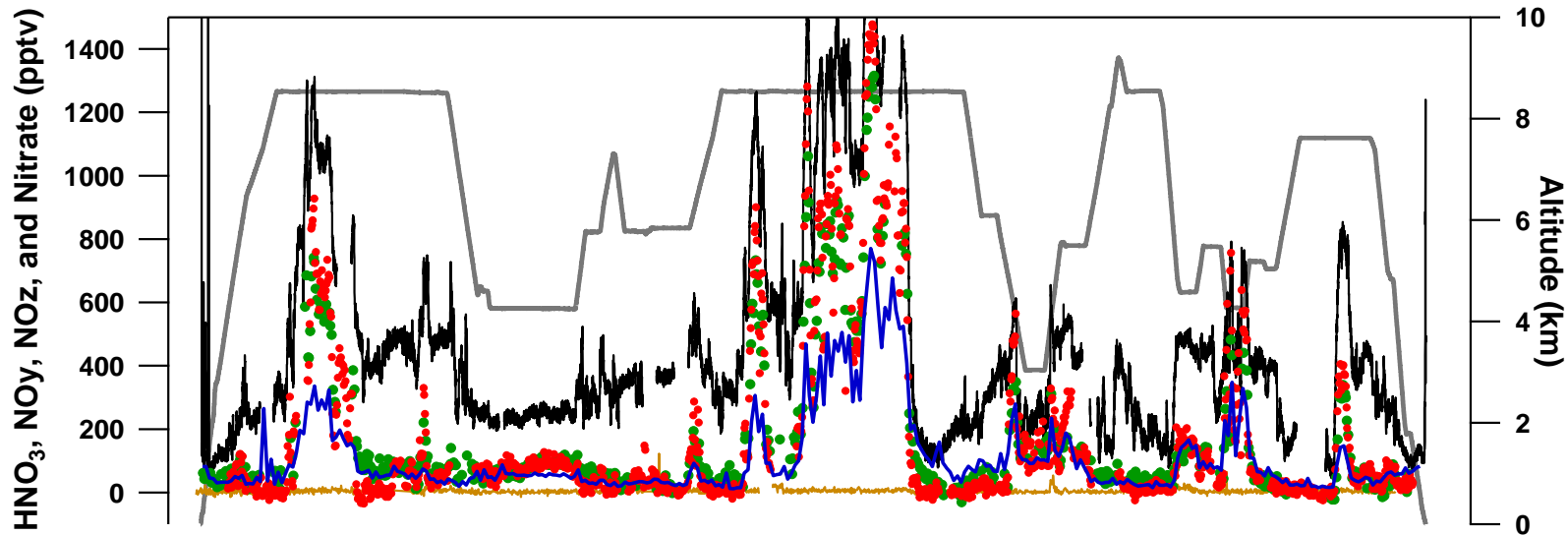
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• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



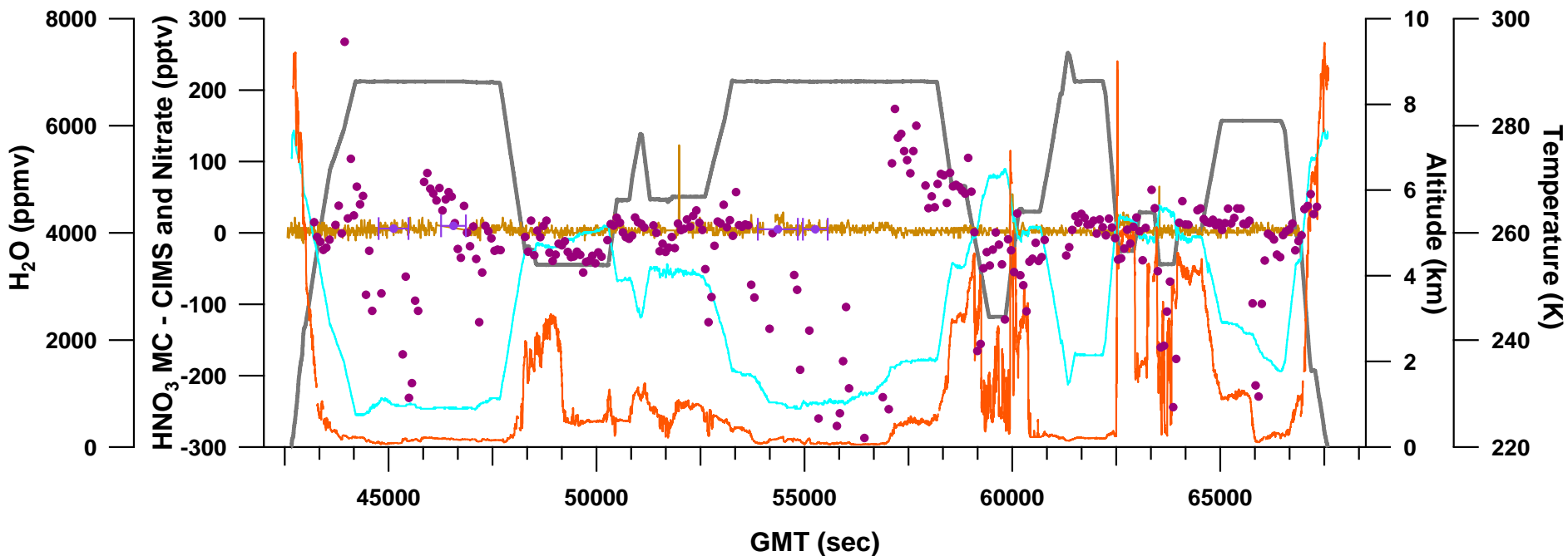
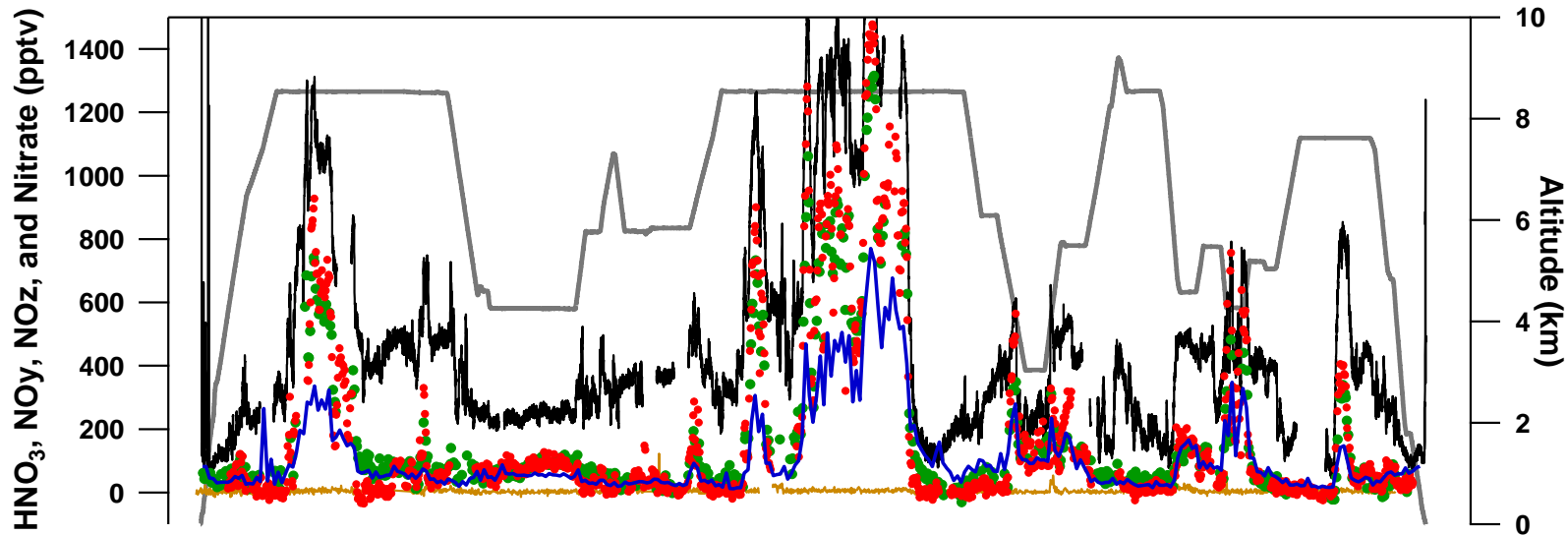
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— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



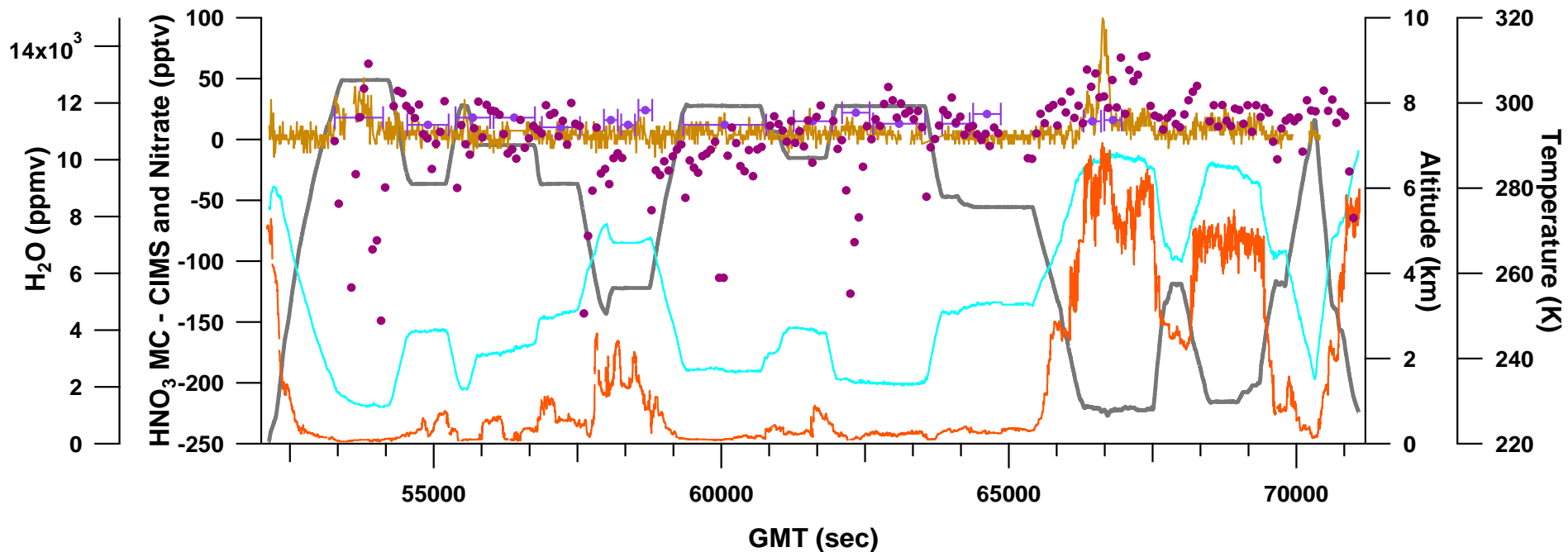
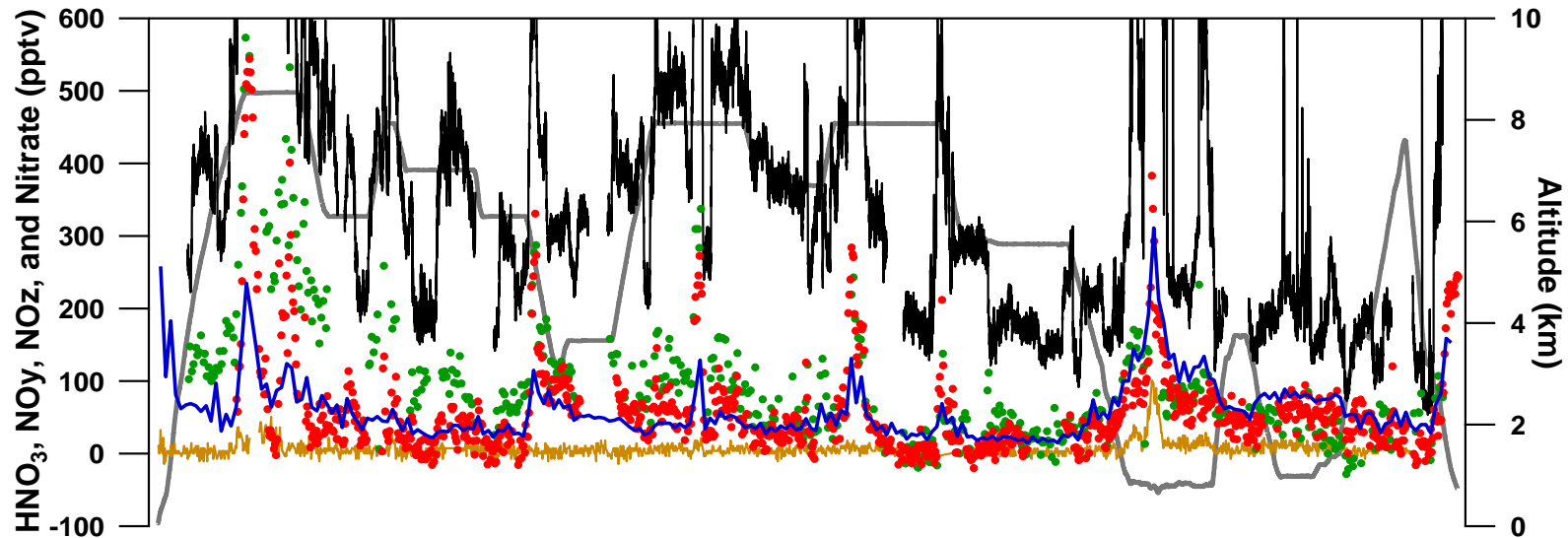
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— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



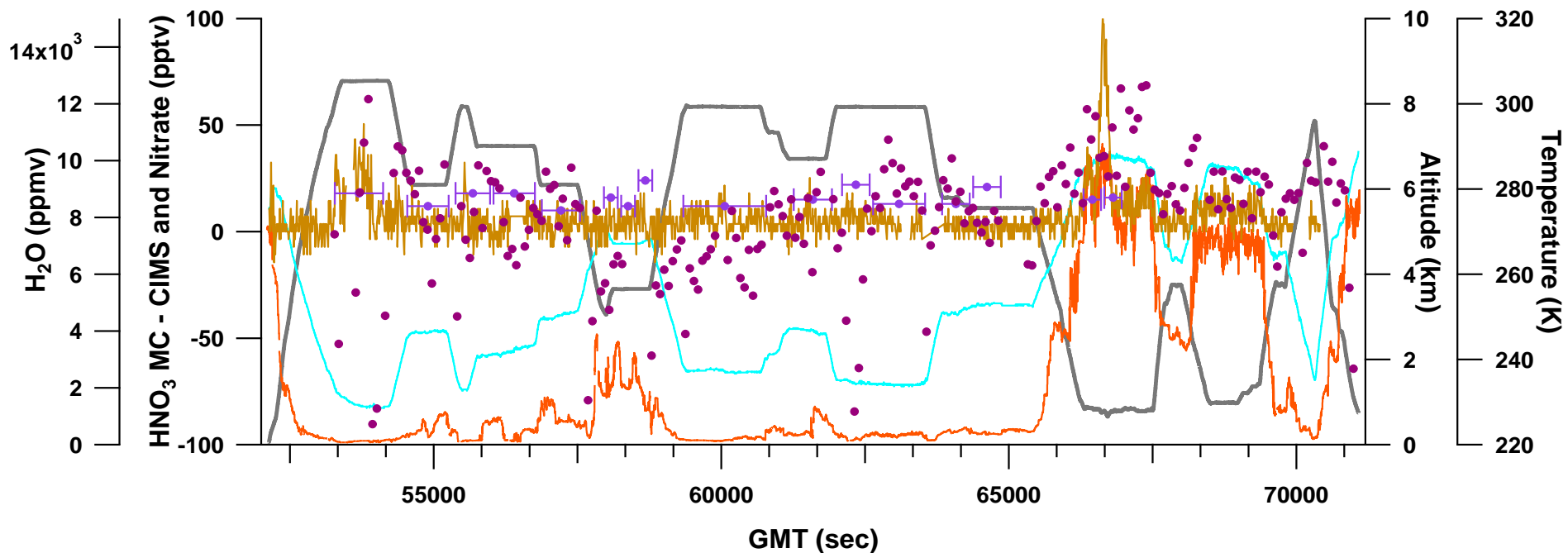
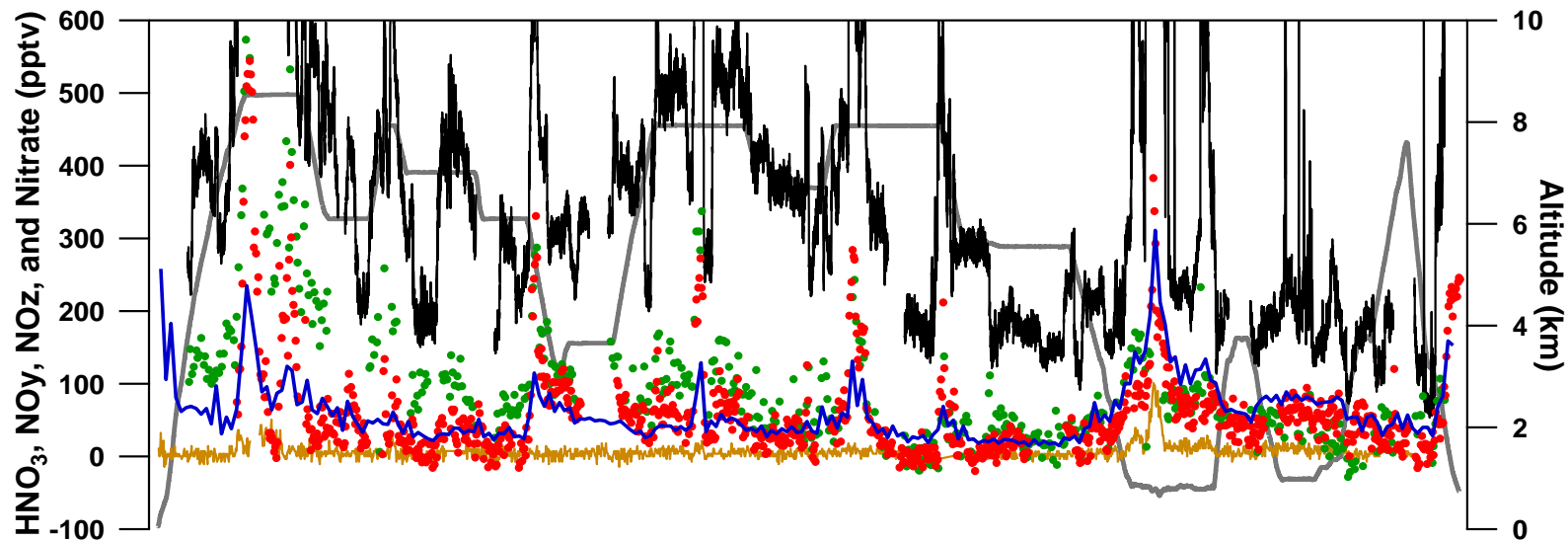
07/10/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



07/10/2008

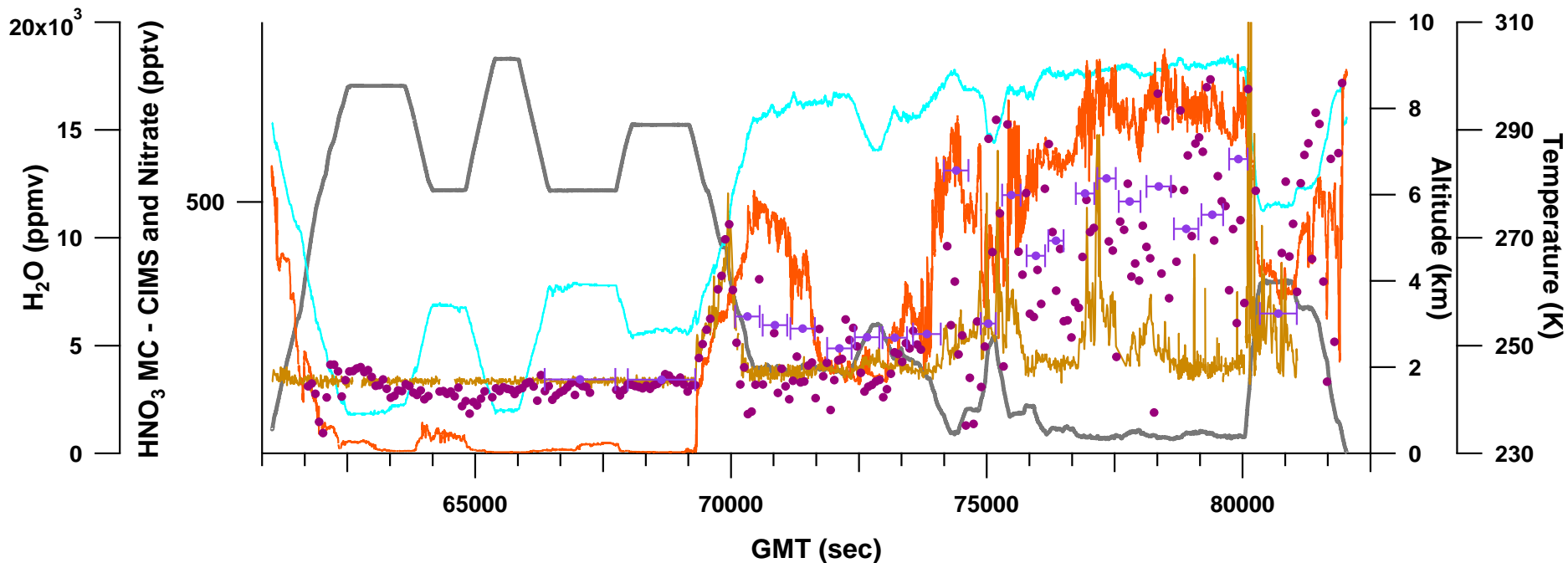
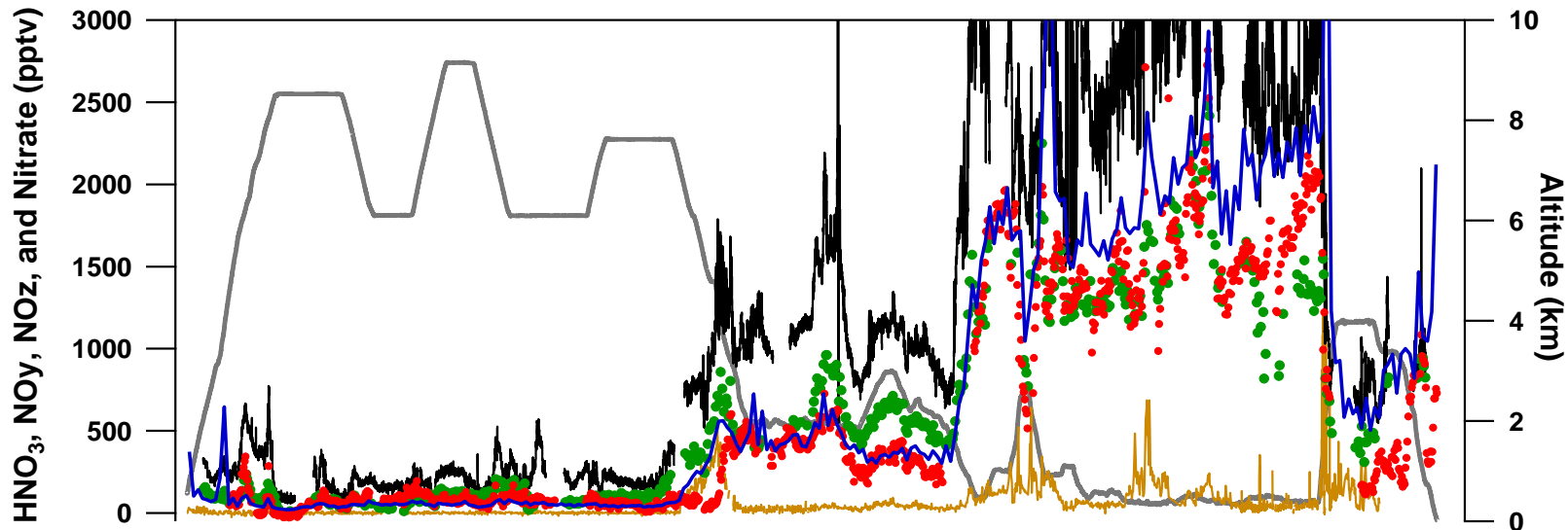
— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





07/13/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



# HNO<sub>3</sub> Time Series

## Definitions:

$$\text{NO}_z = \text{NO}_y - \text{NO}_2 - \text{NO} - \text{ANs} - \text{PNs}$$

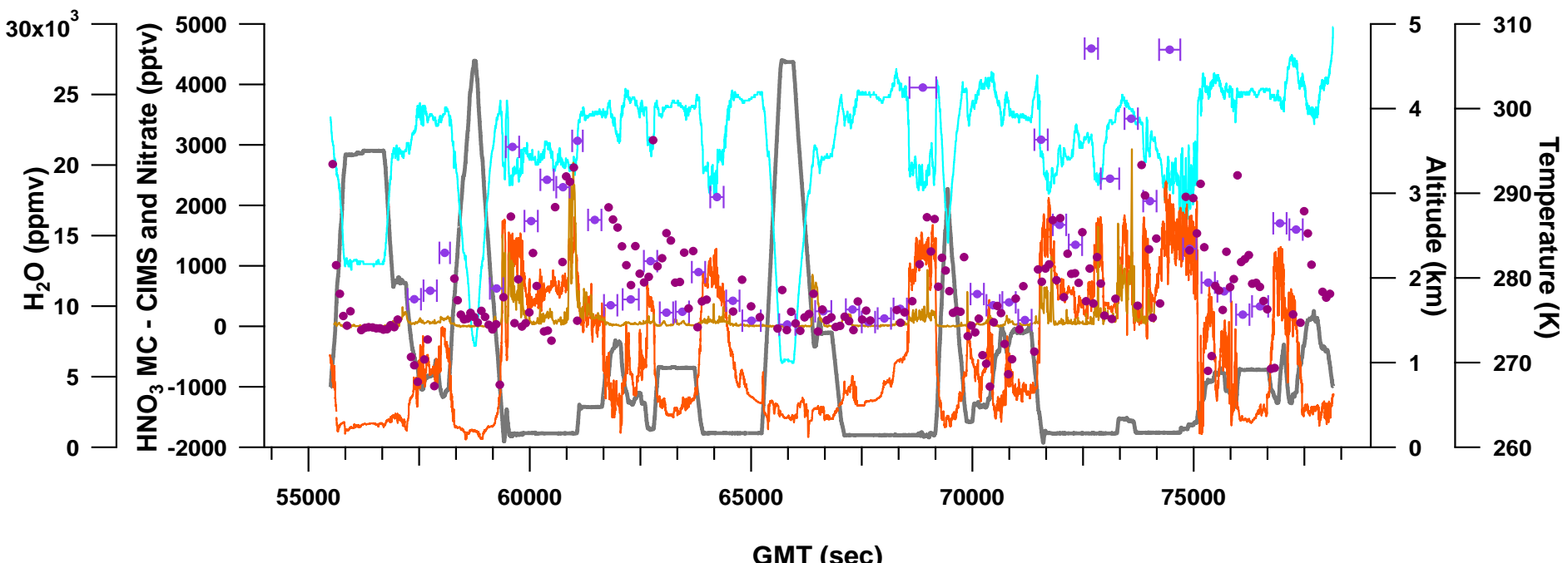
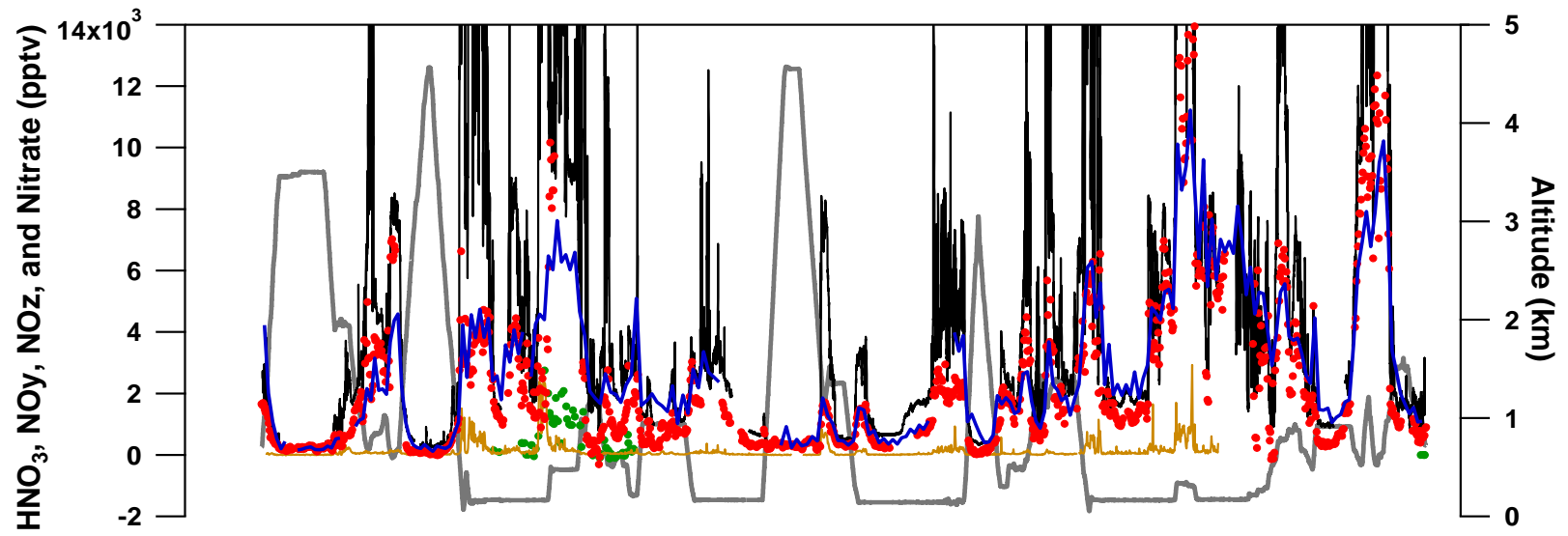
Note: NO<sub>z</sub> calculated using 1 second merge for Spring phase and 10 second merge for the Summer phase

### Revision Notes for NO<sub>z</sub>

20080618: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080620: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080622: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080626: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080629: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080701: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080704: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080705: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080708: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080709: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080710: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0  
20080713: NO<sub>xy</sub>O3 (NO, NO<sub>2</sub> and NO<sub>y</sub>) R3 and UCB-PNs R0

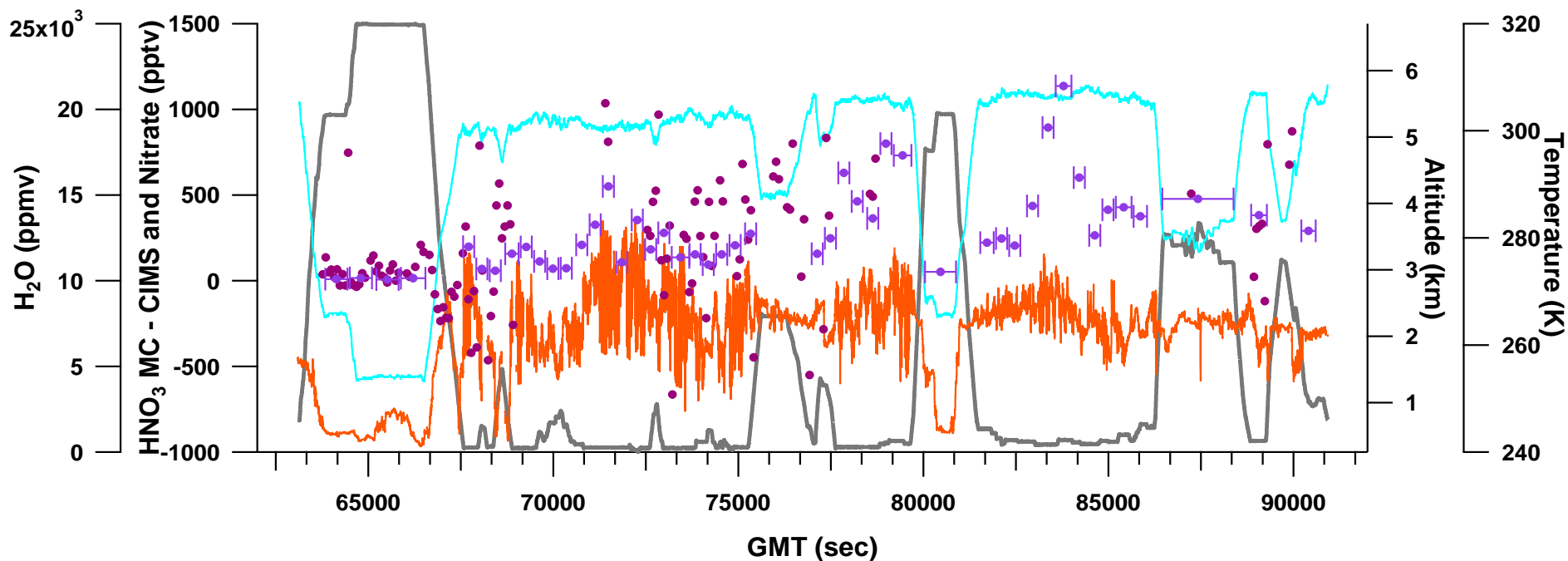
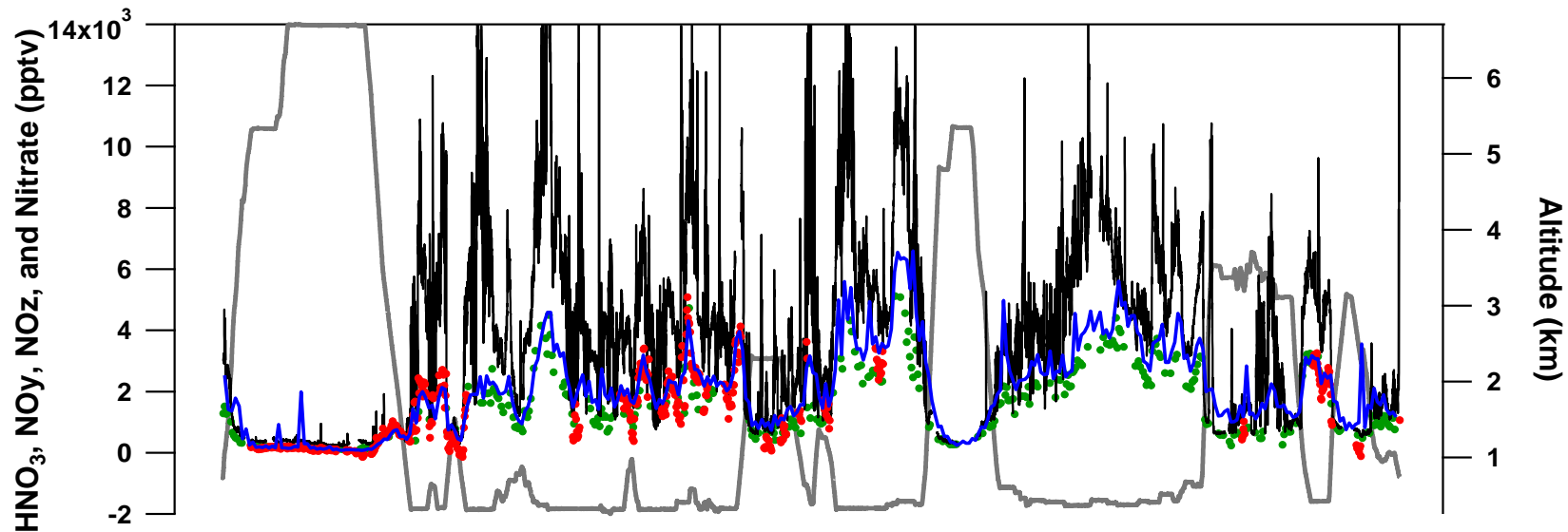
06/18/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R0  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



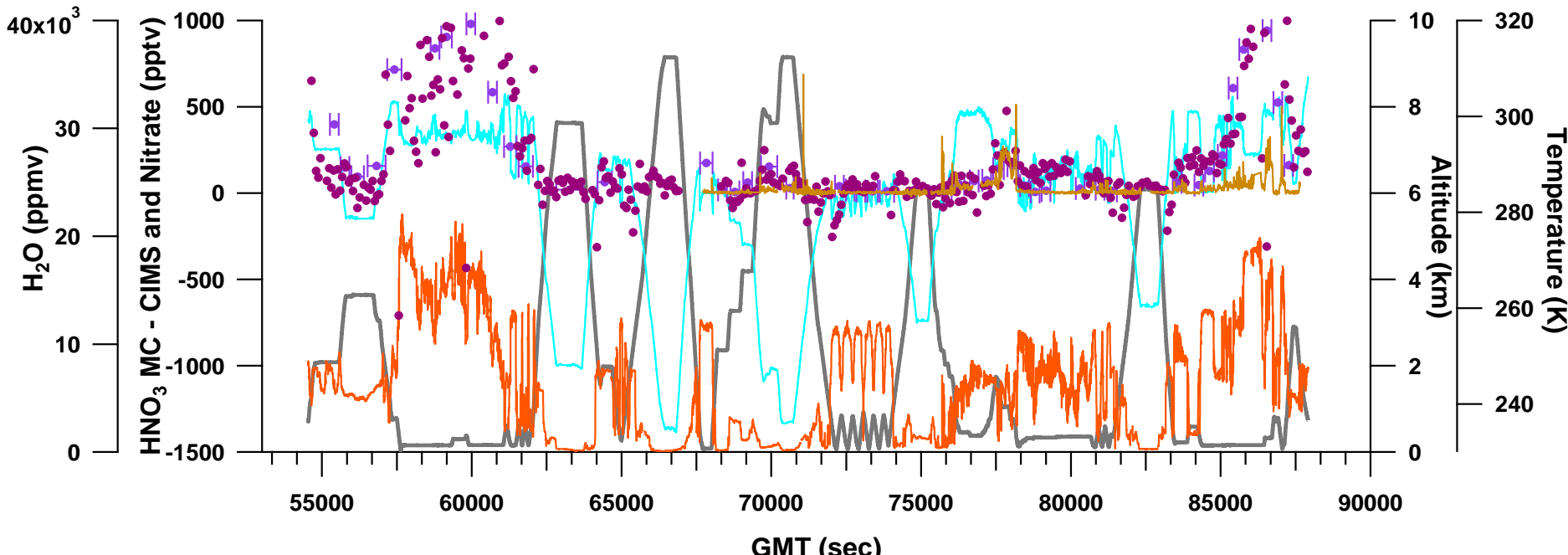
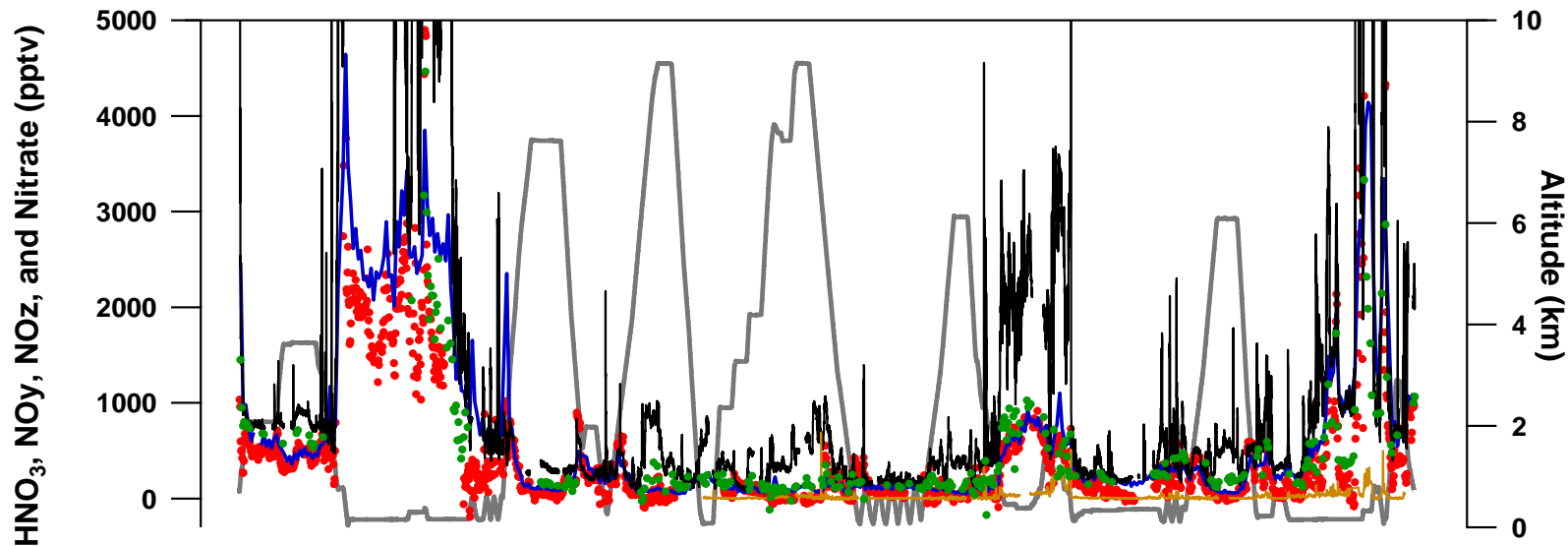
06/20/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R0  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



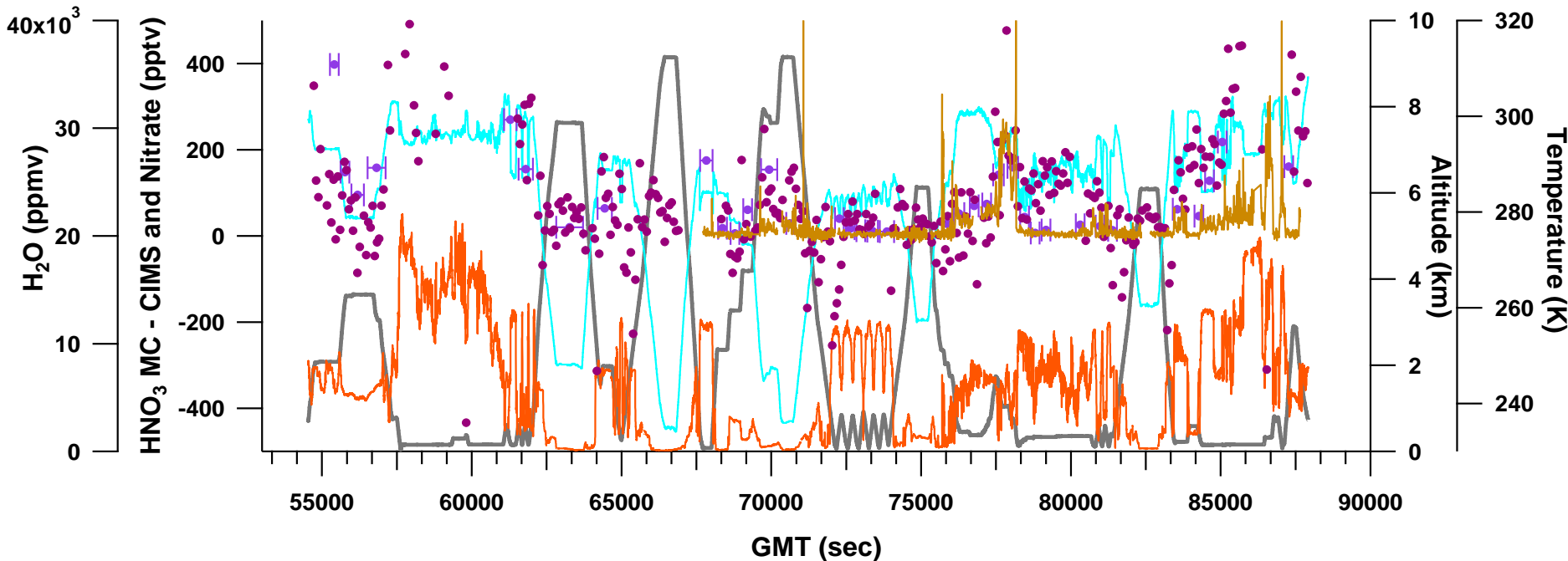
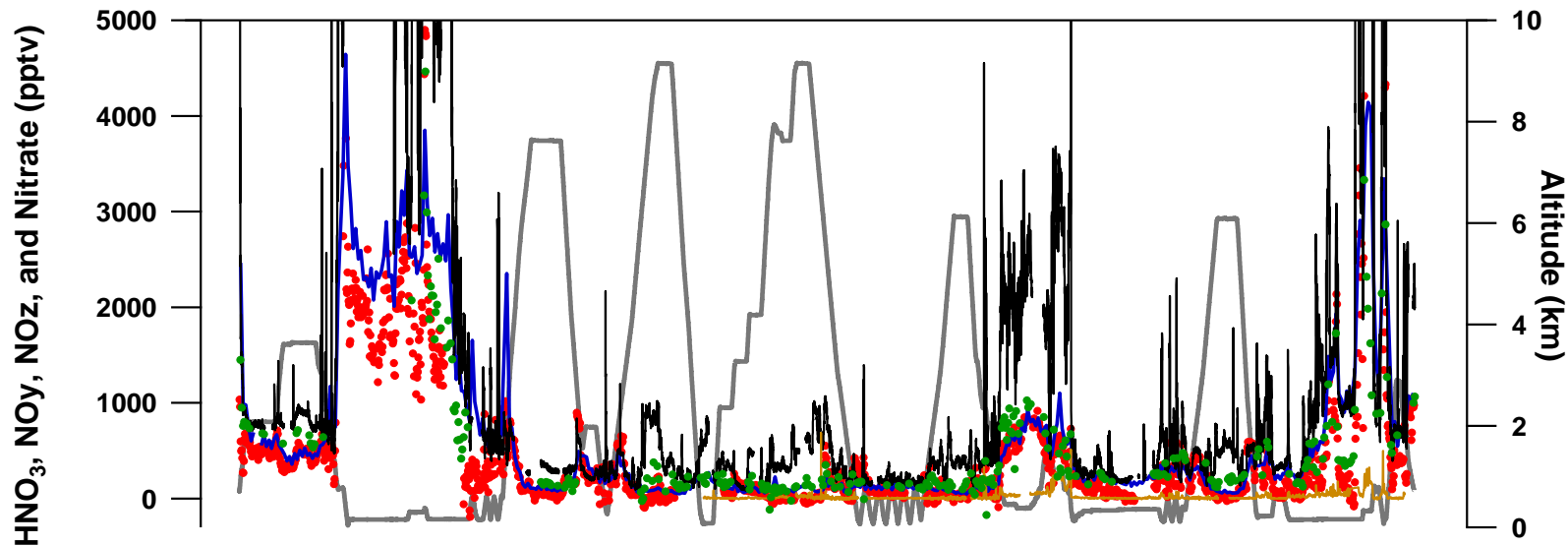
06/22/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



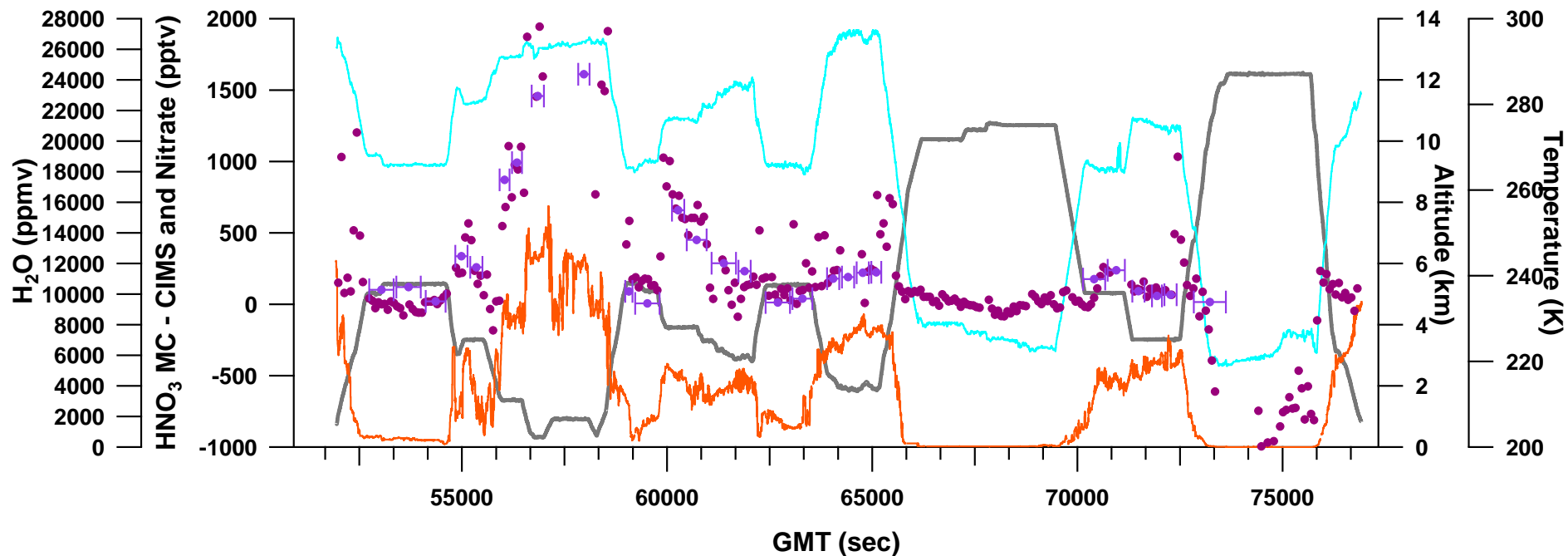
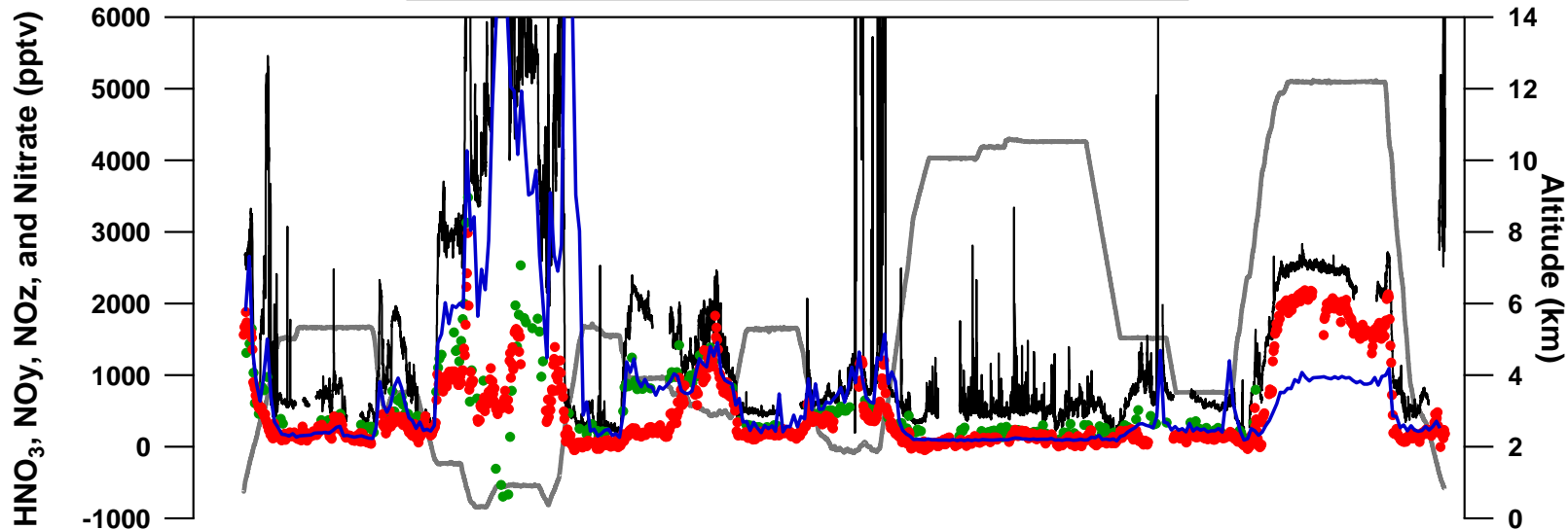
06/22/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
• NO<sub>2</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



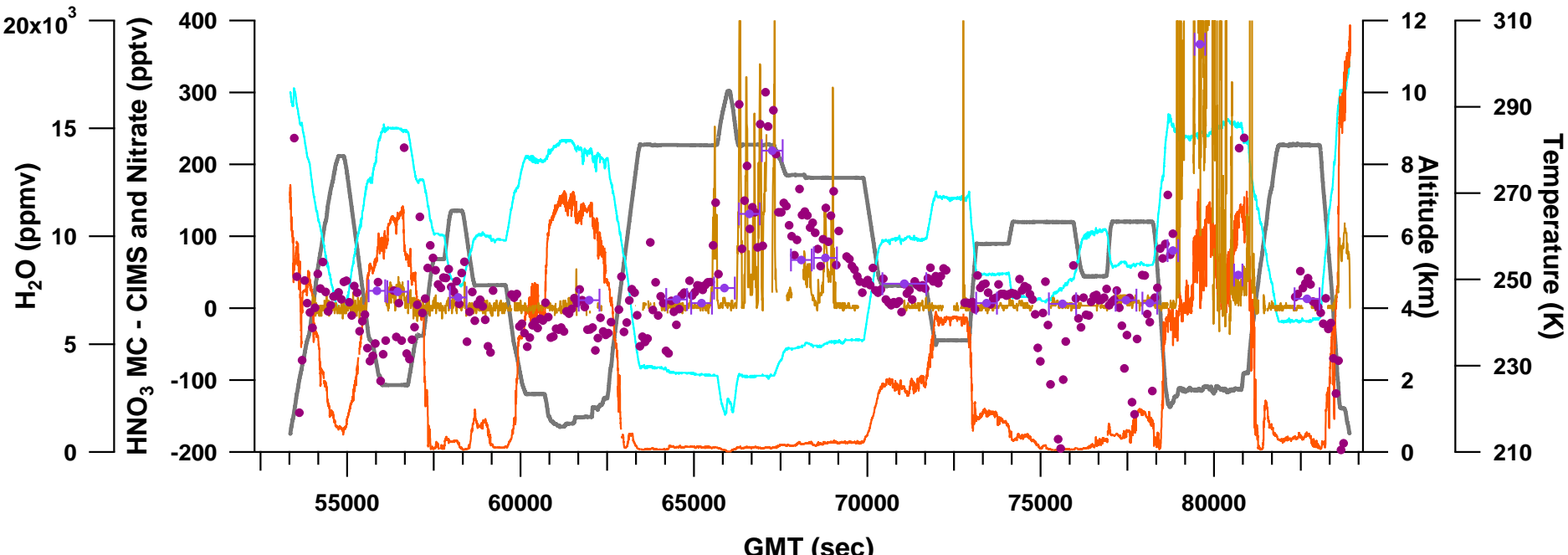
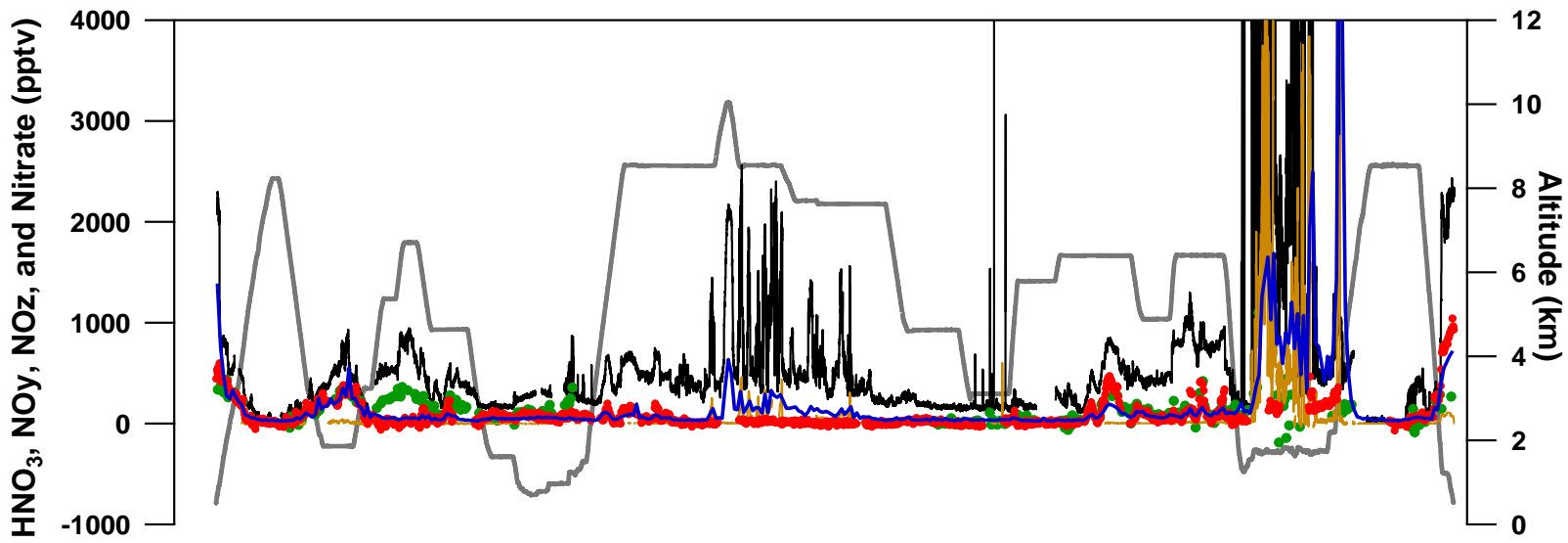
06/26/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



06/29/2008

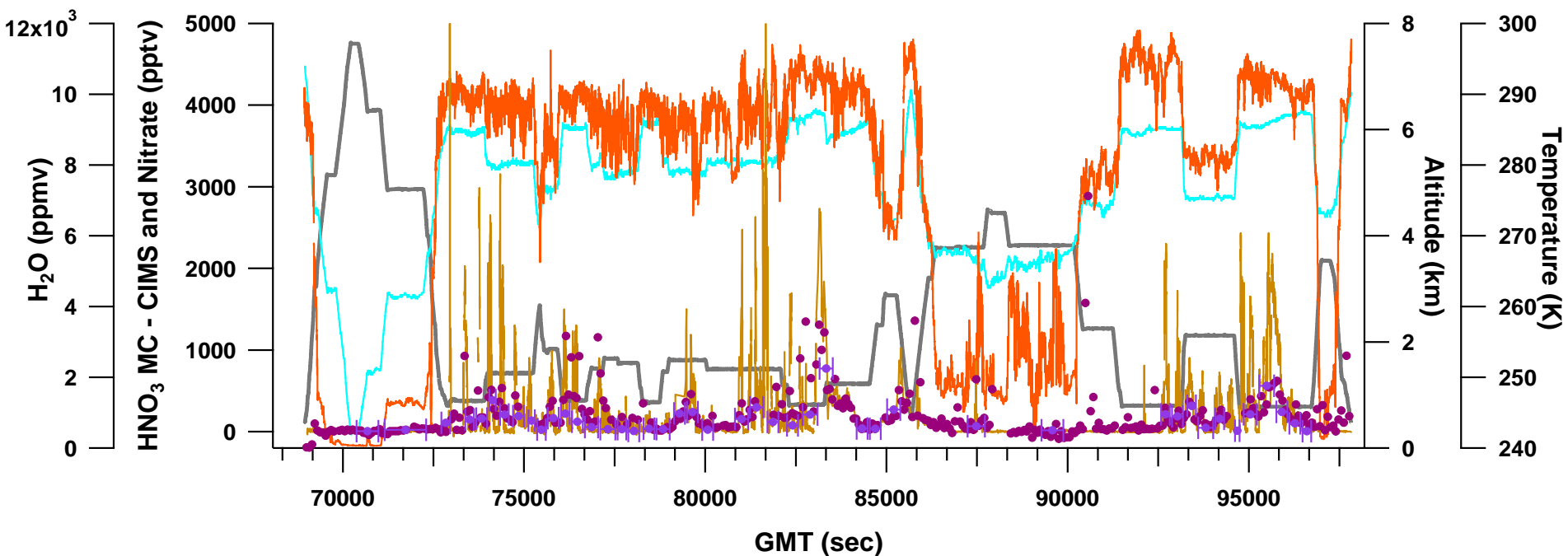
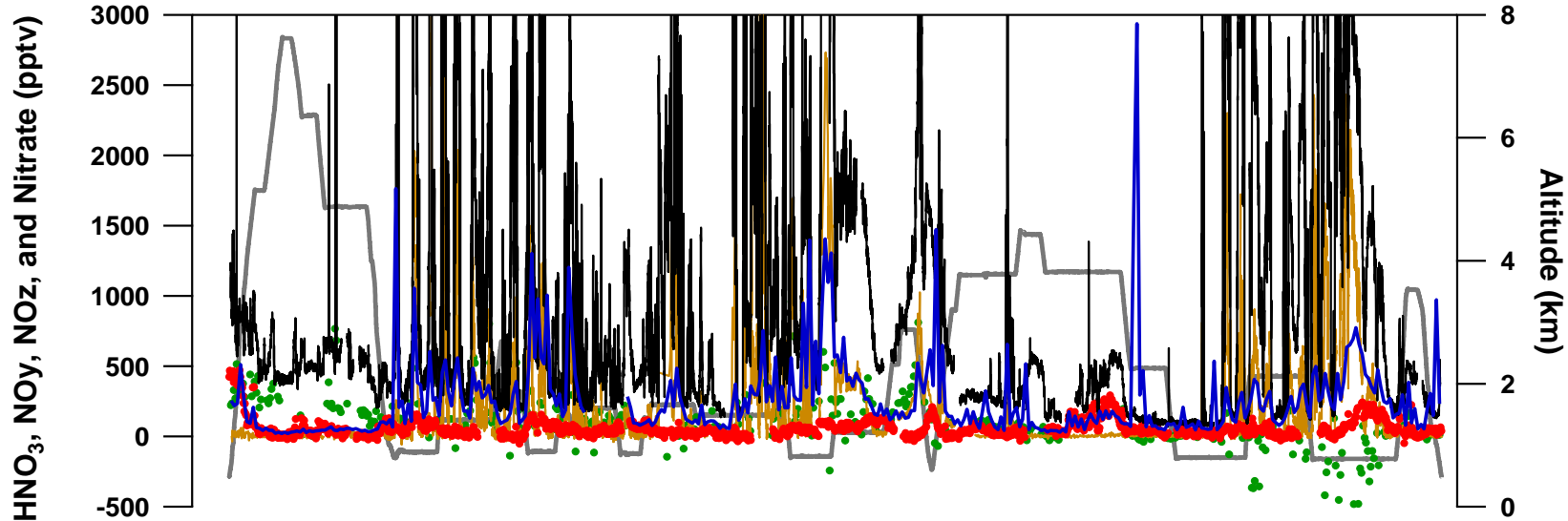
— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





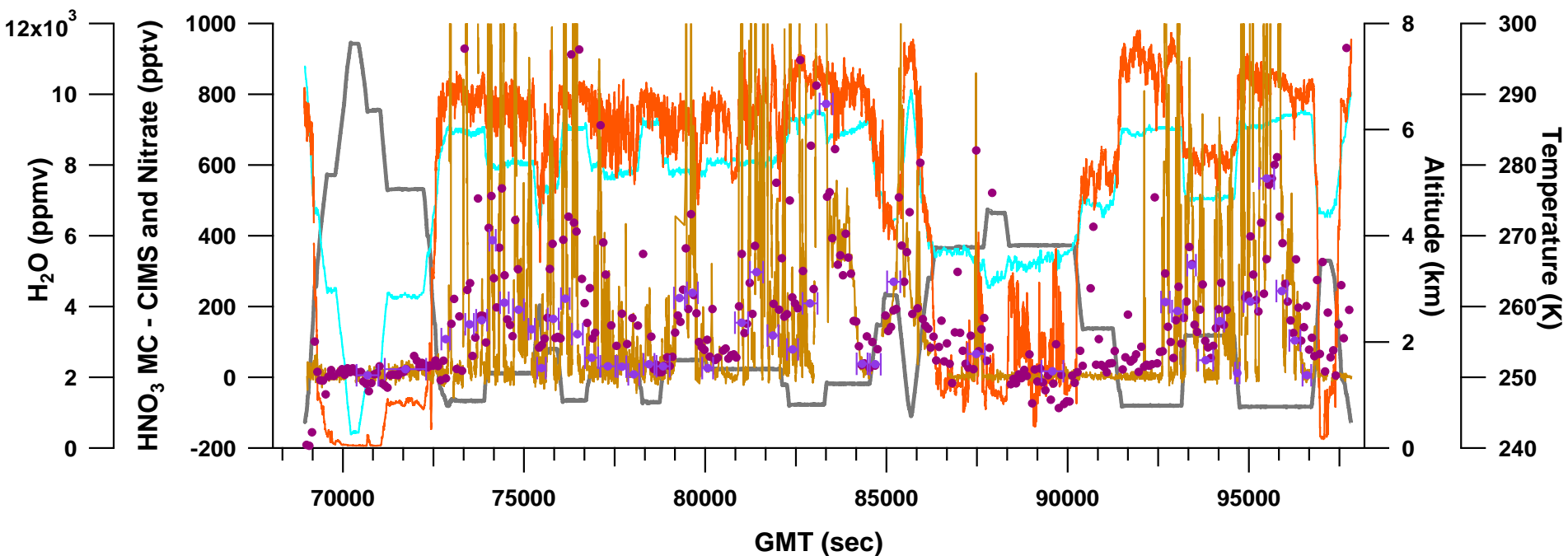
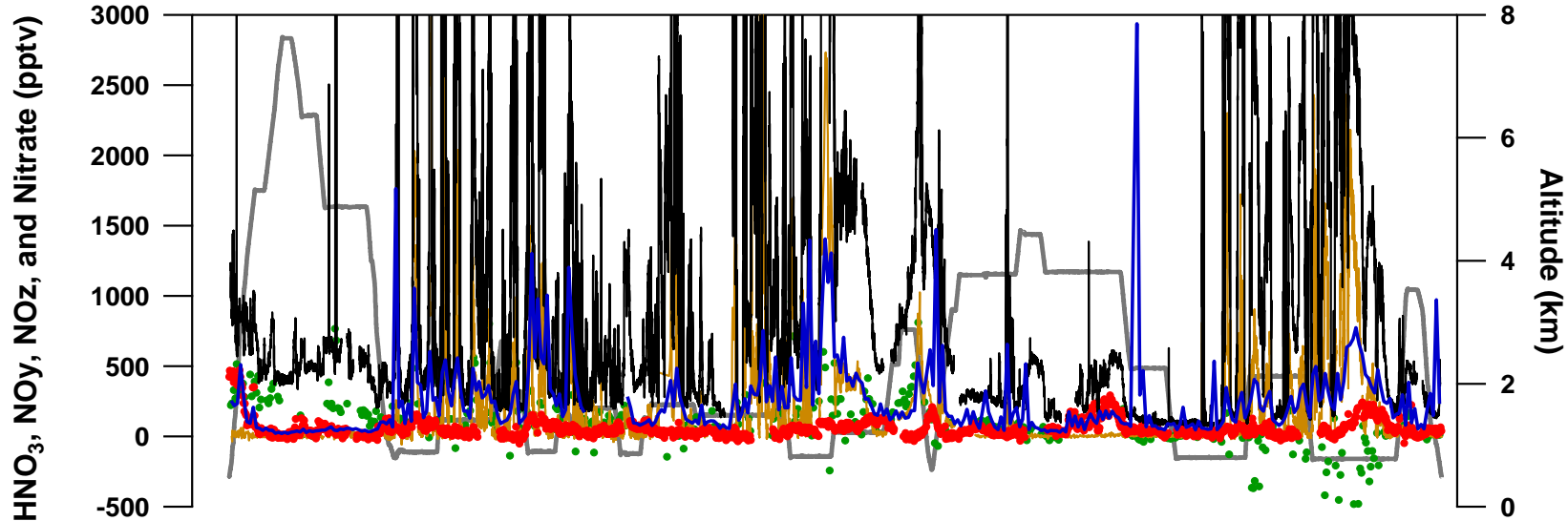
07/01/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



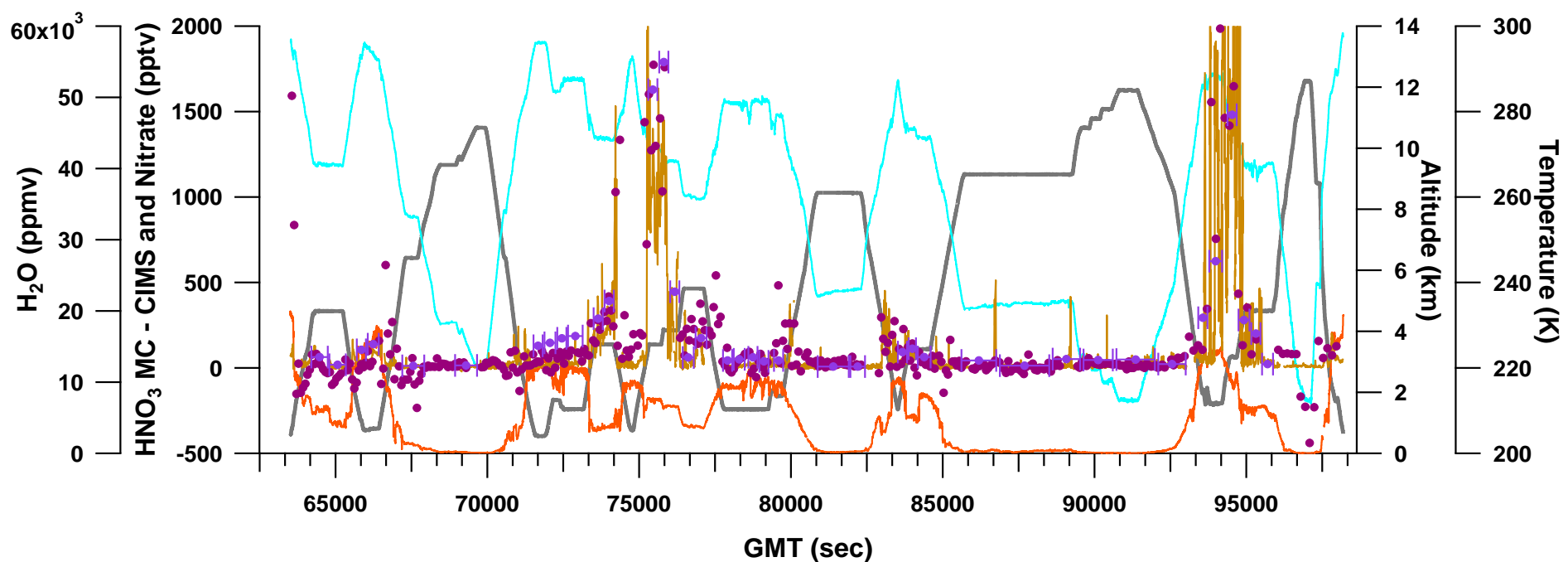
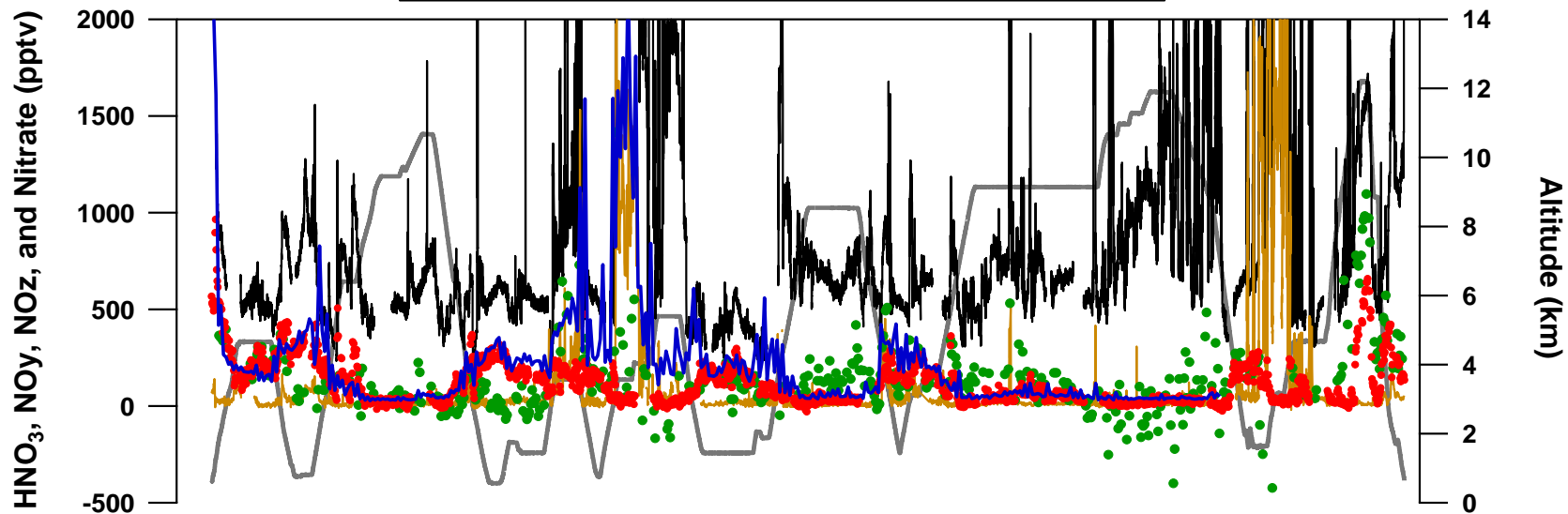
07/01/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



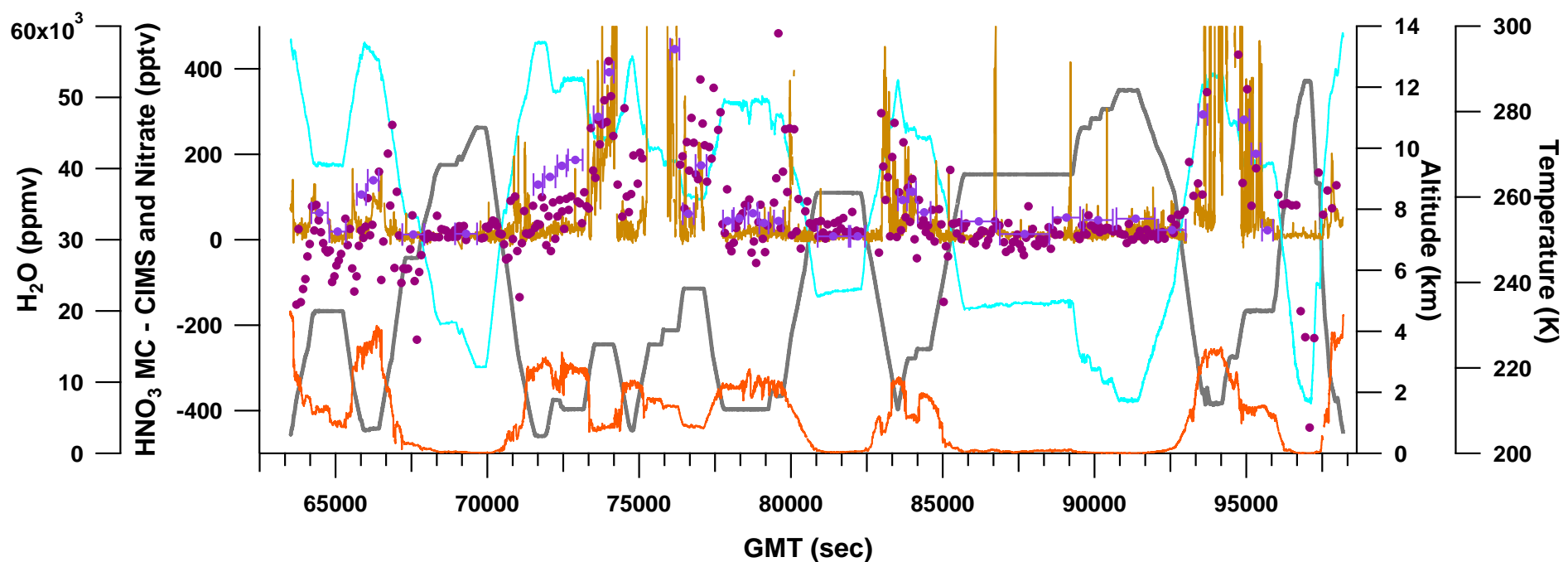
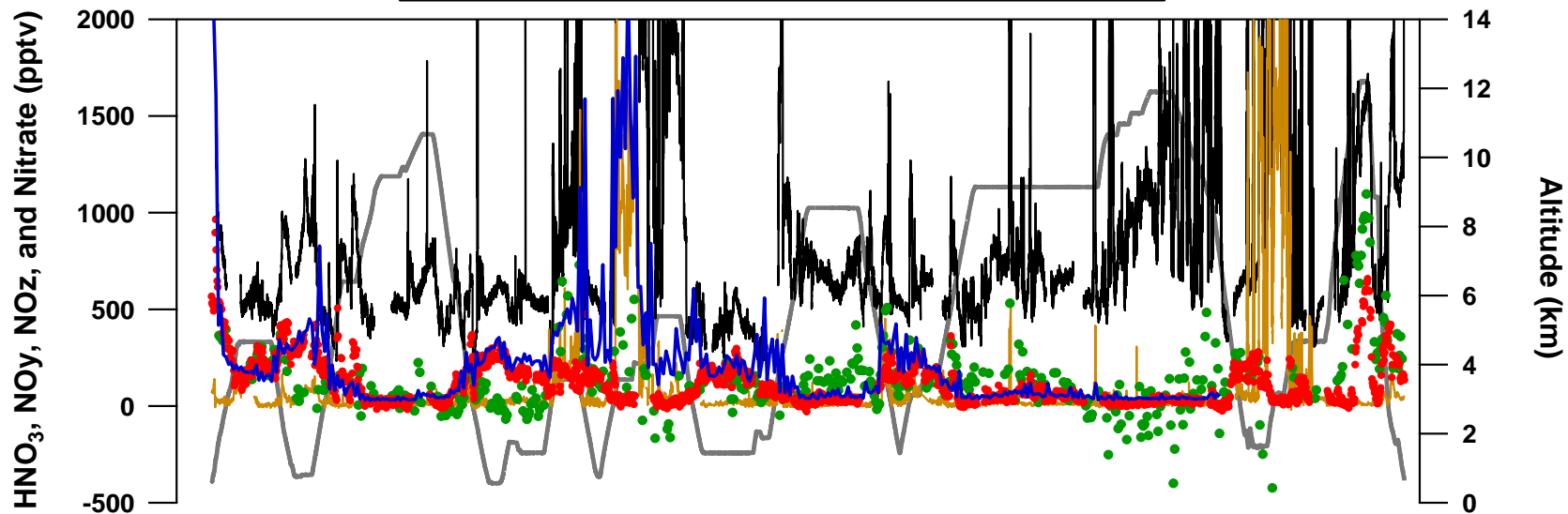
07/04/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



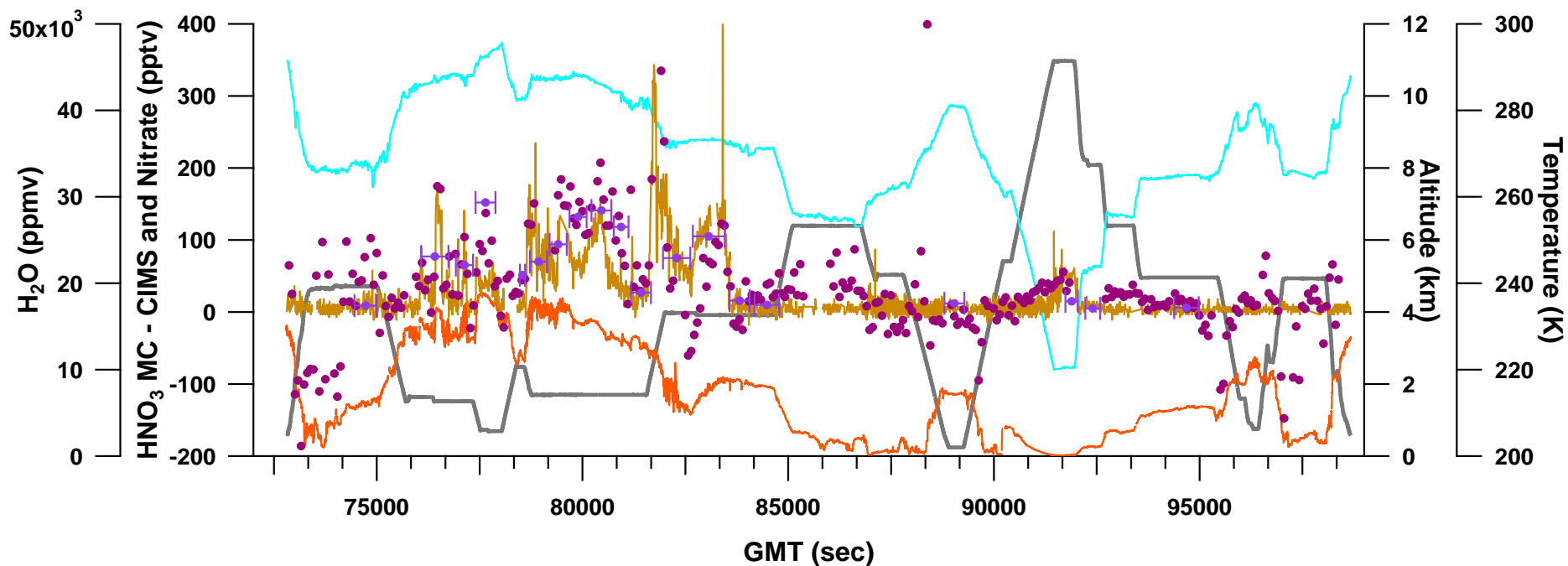
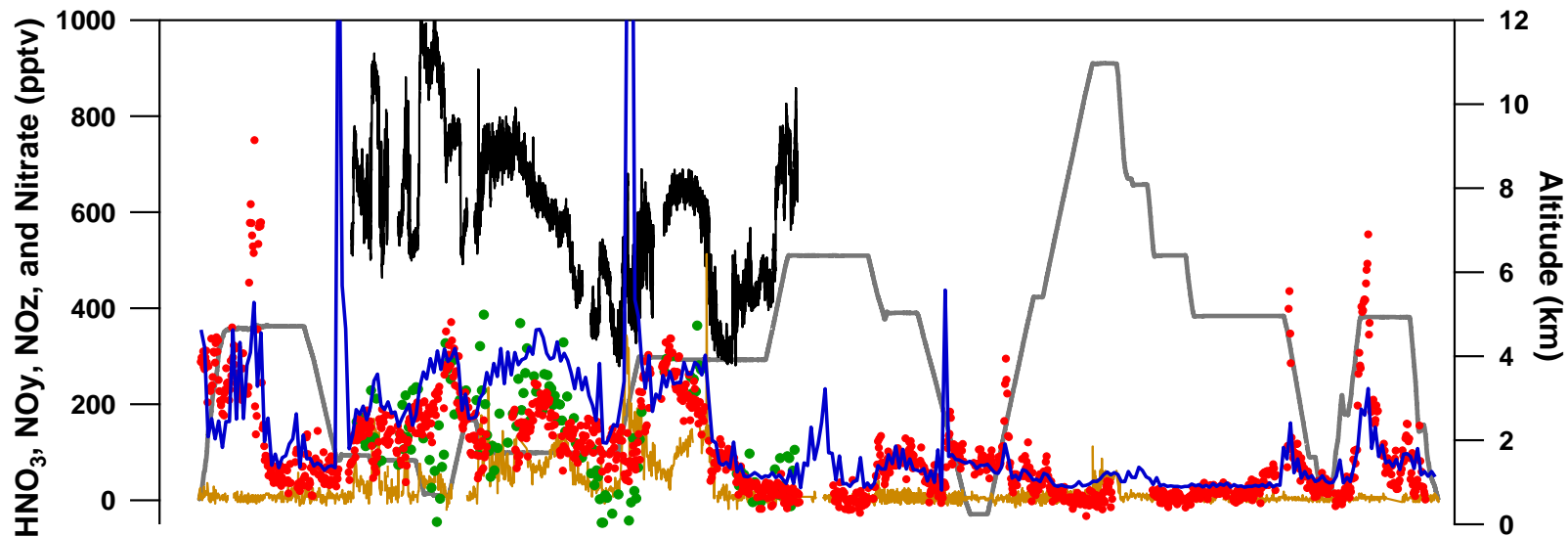
07/04/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



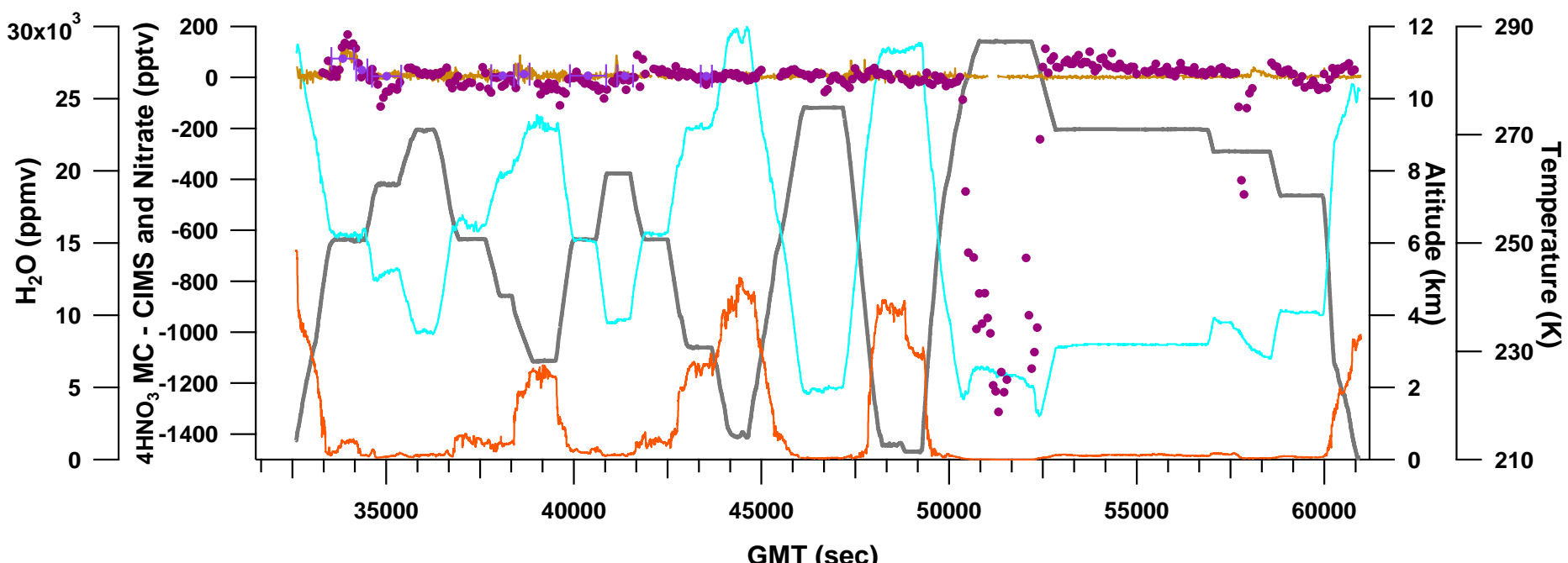
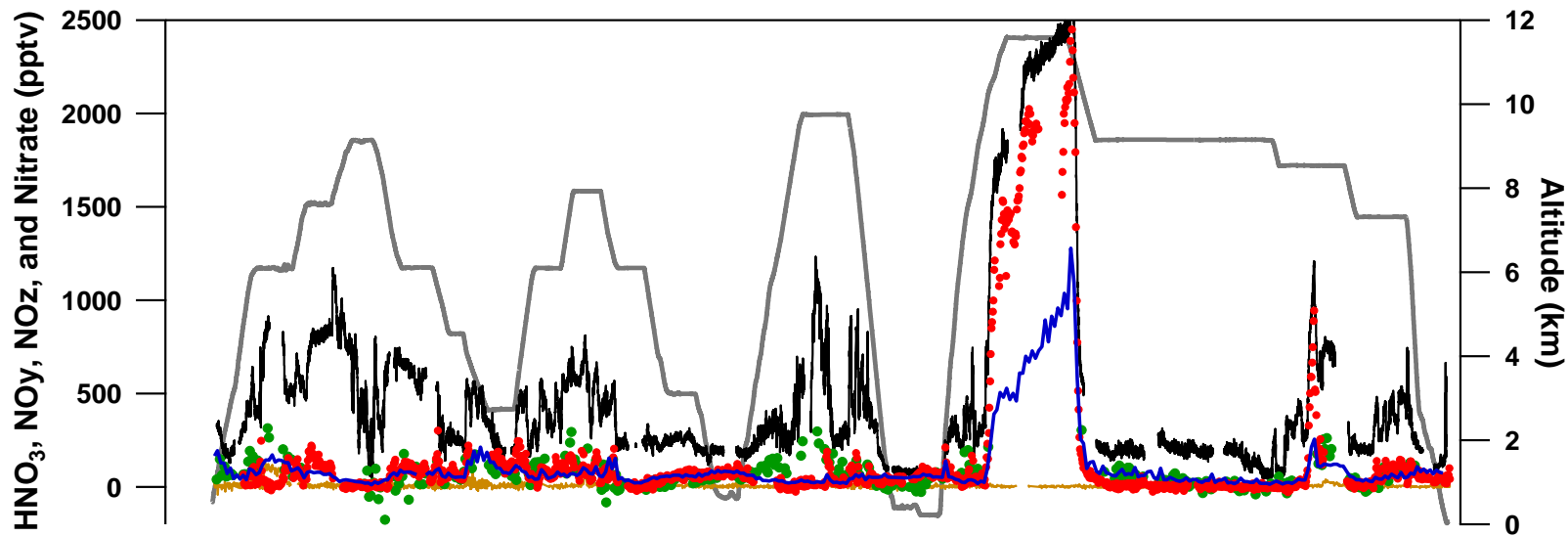
07/05/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 — AMS NO<sub>3</sub> R2 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



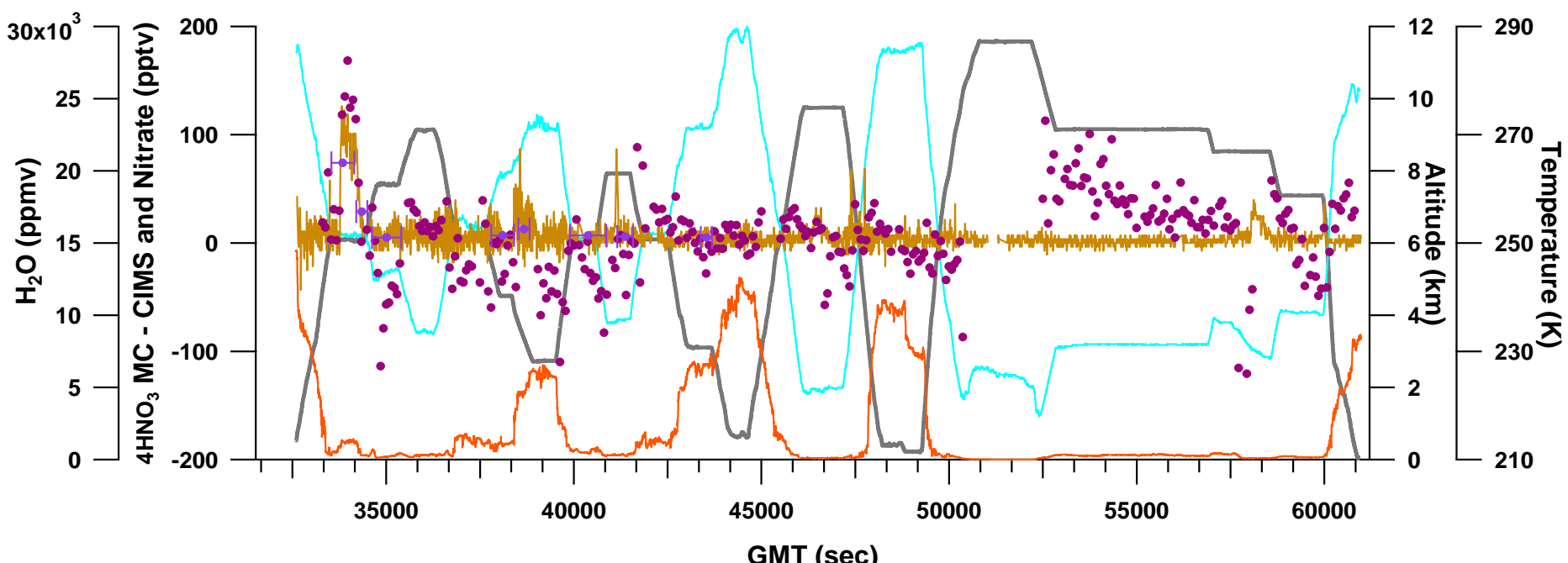
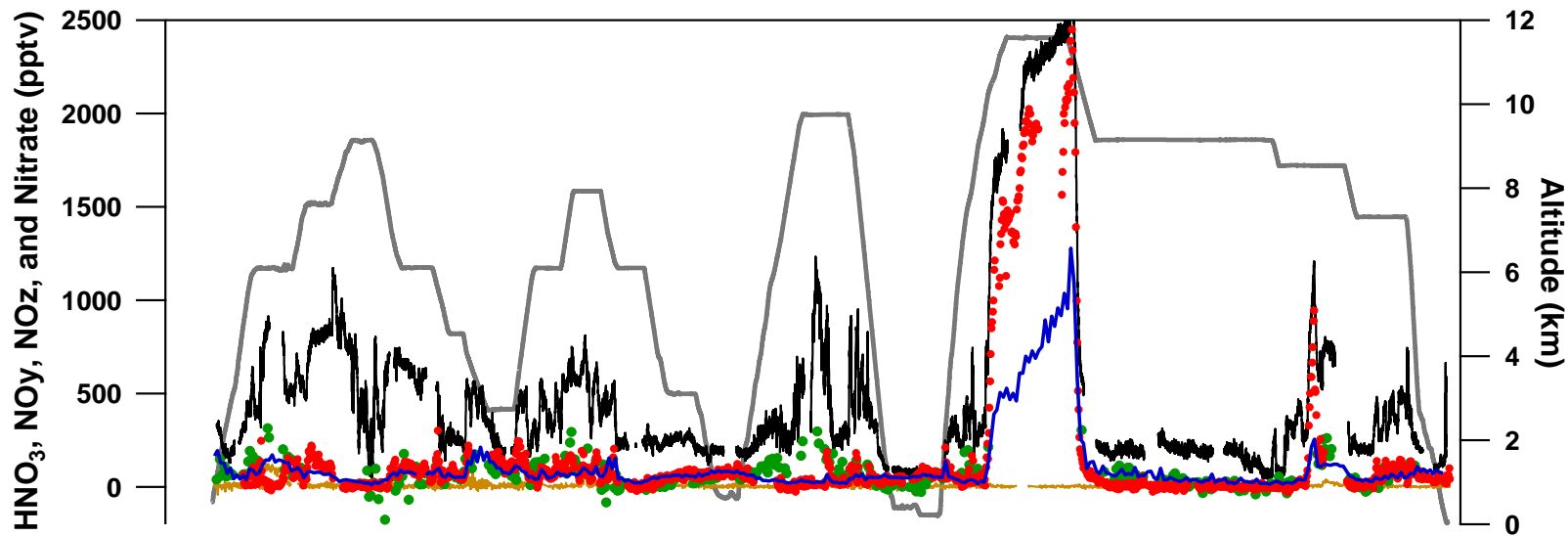
07/08/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



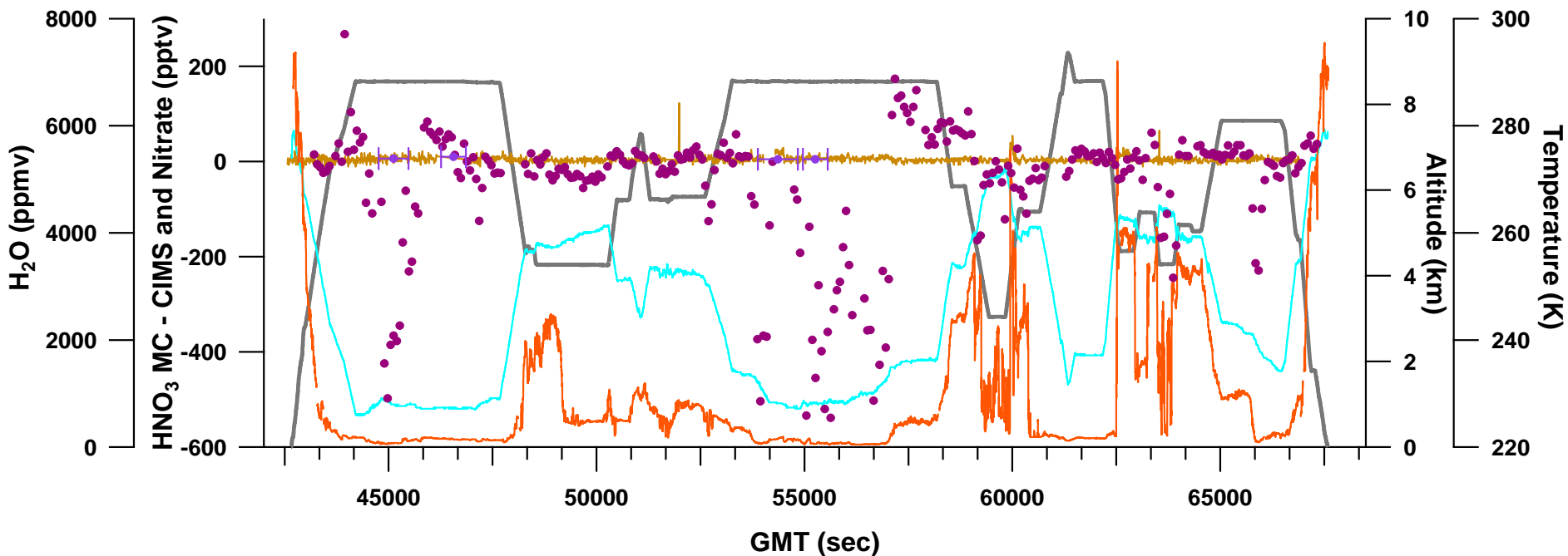
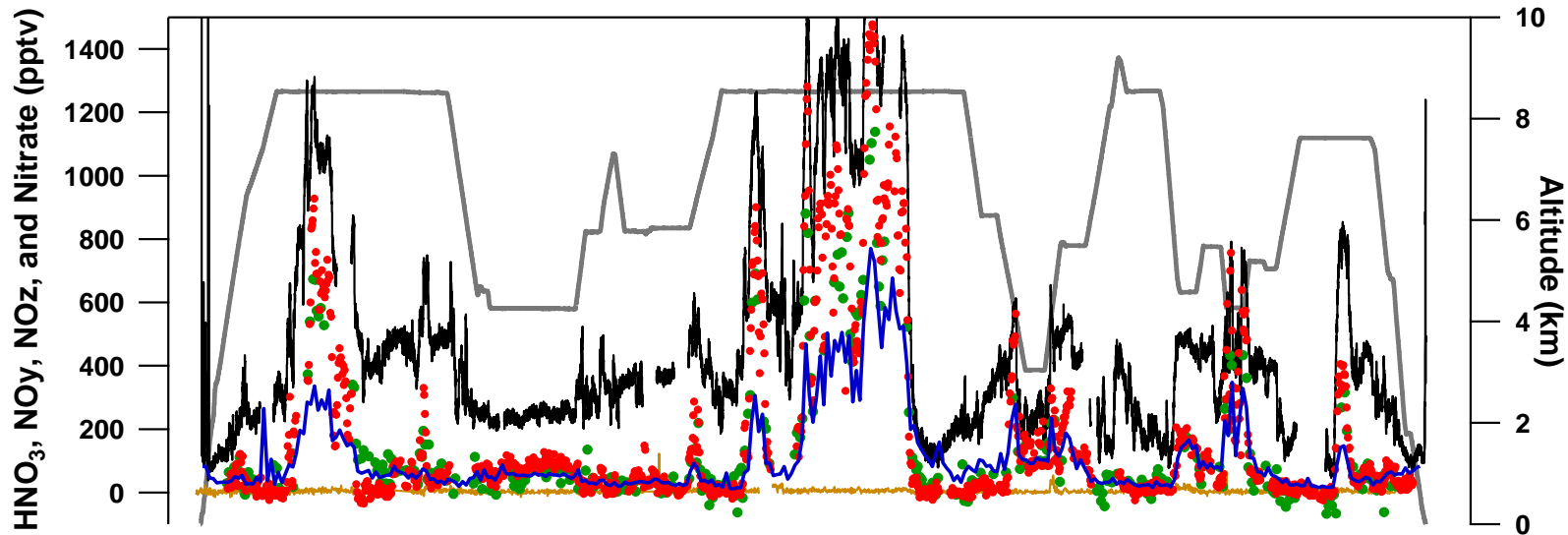
07/08/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



07/09/2008

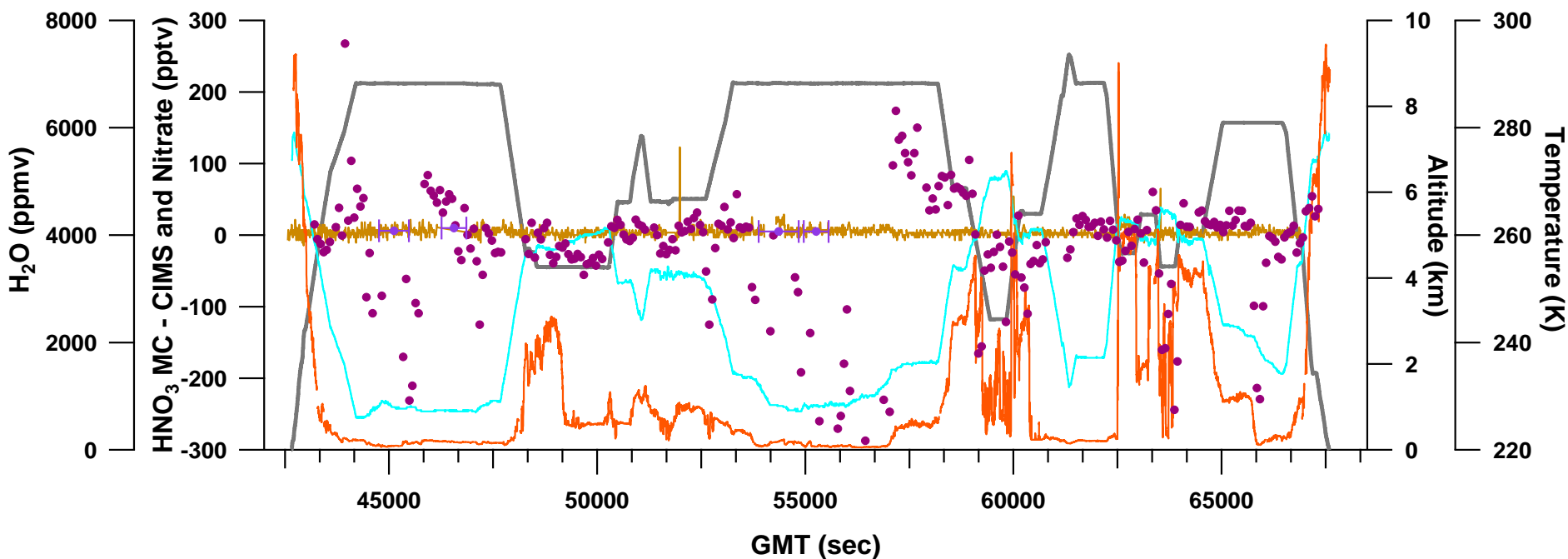
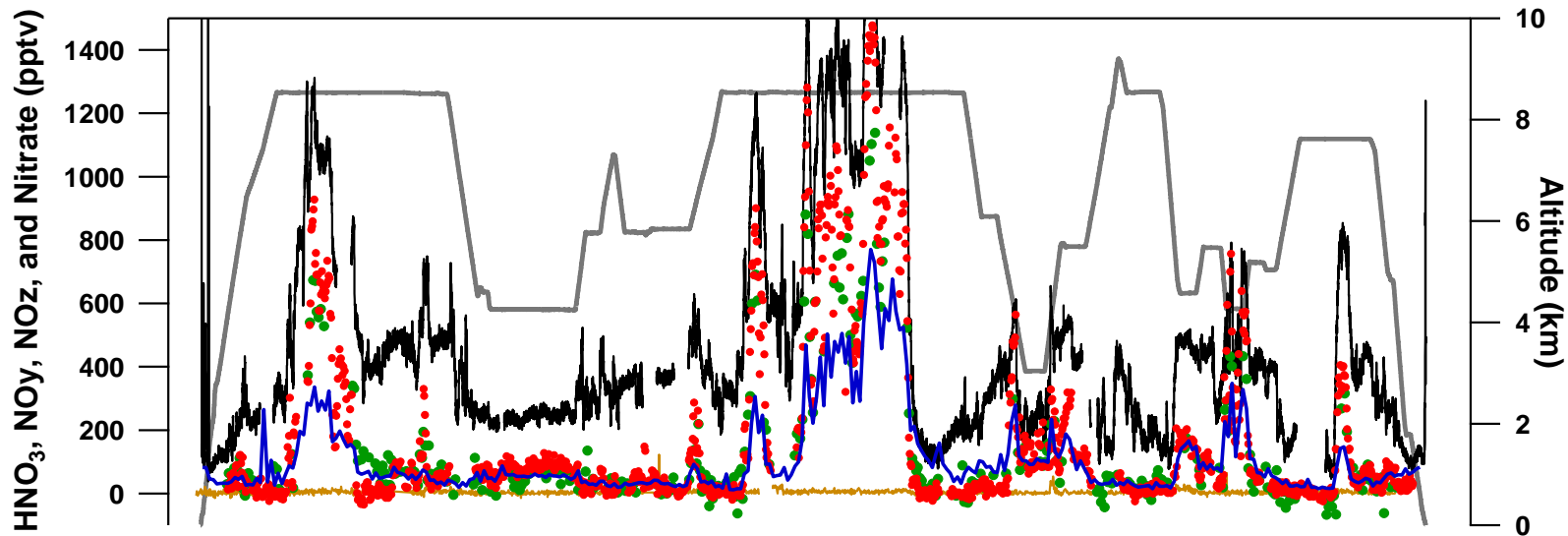
— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1





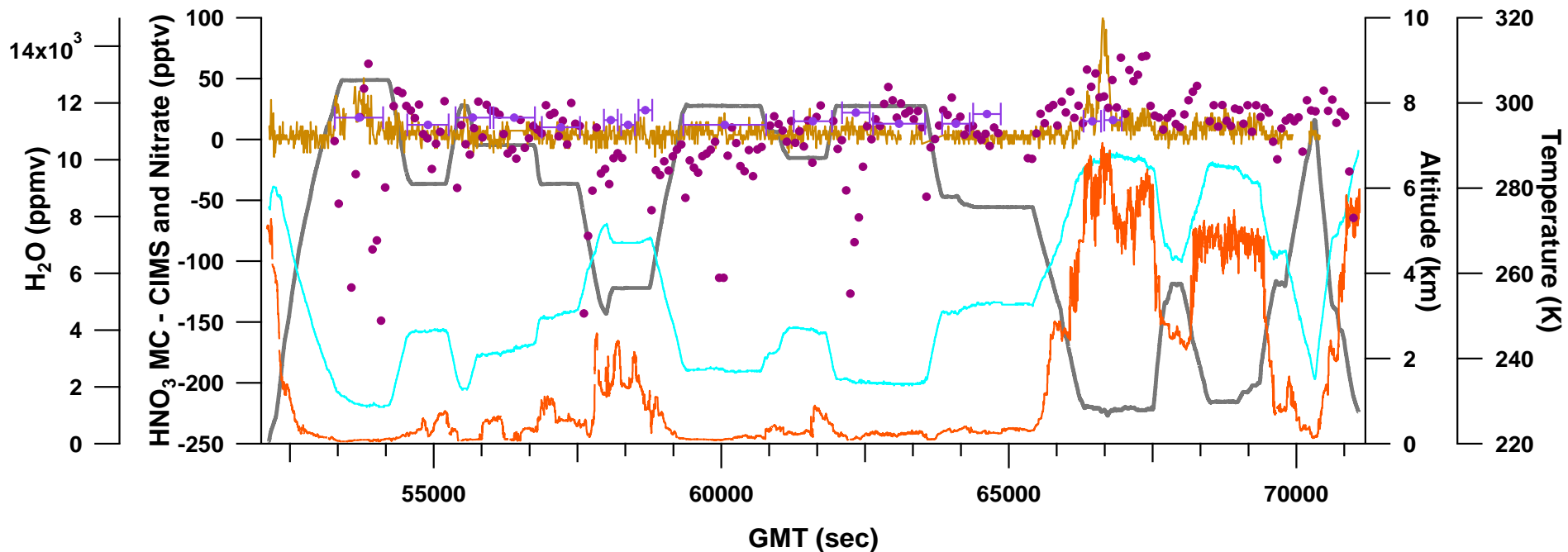
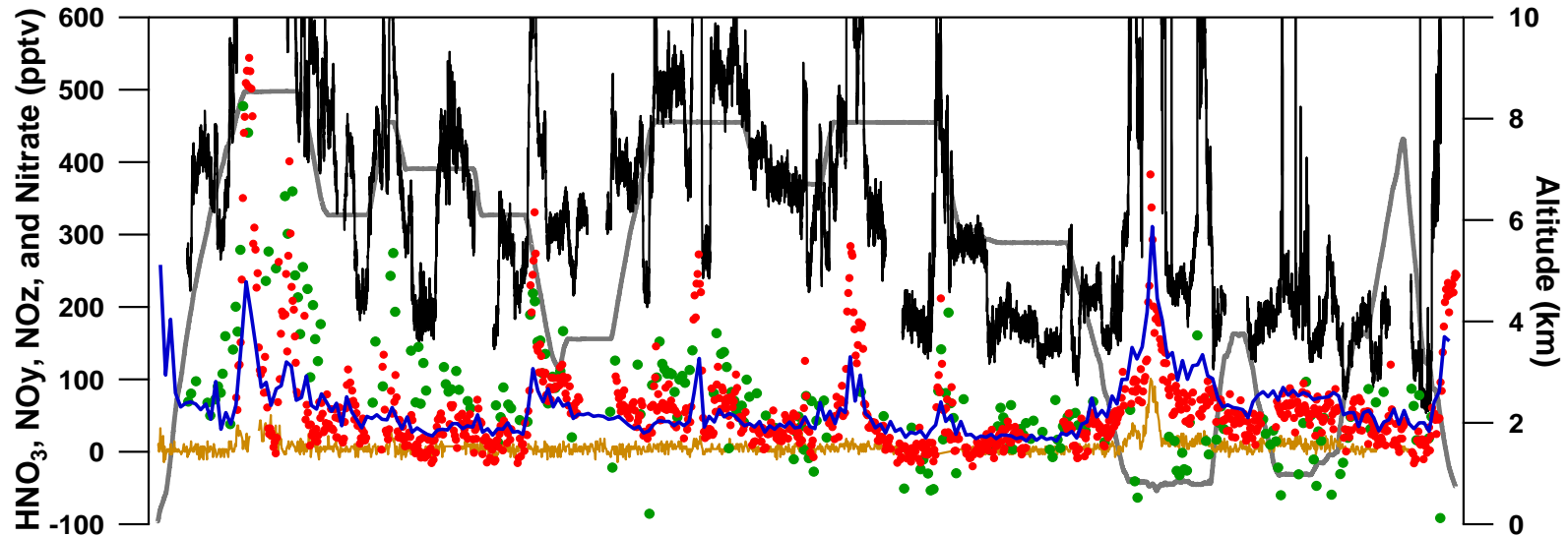
07/09/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



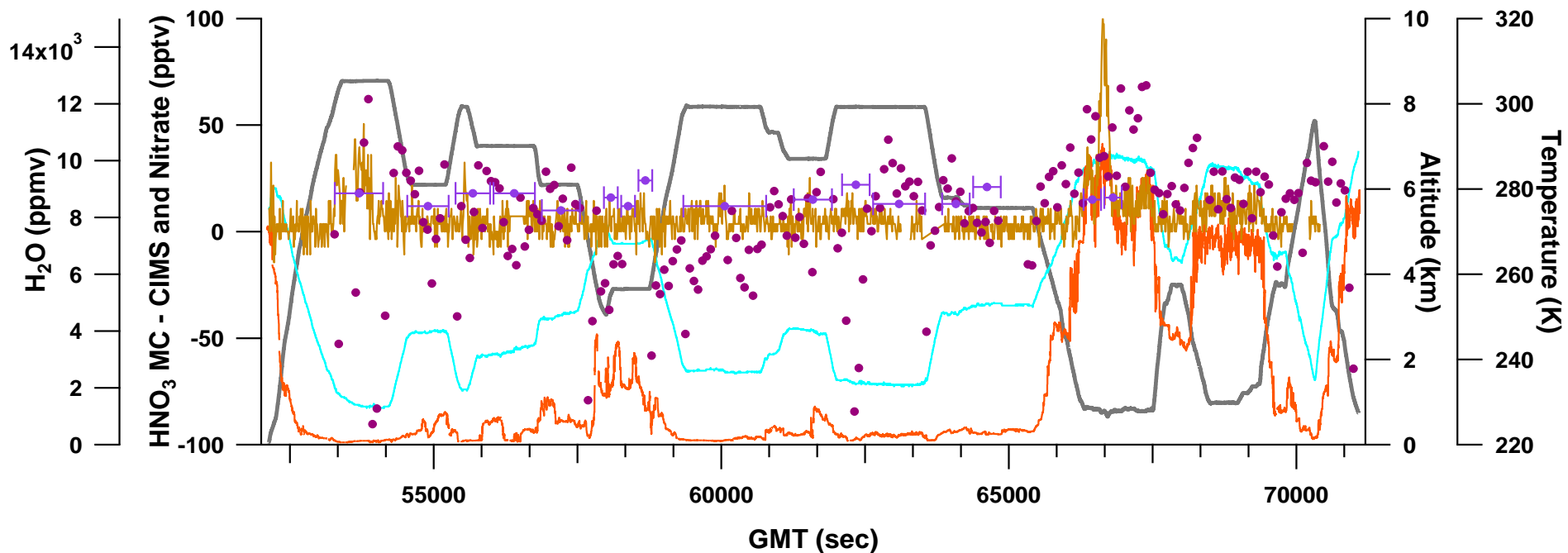
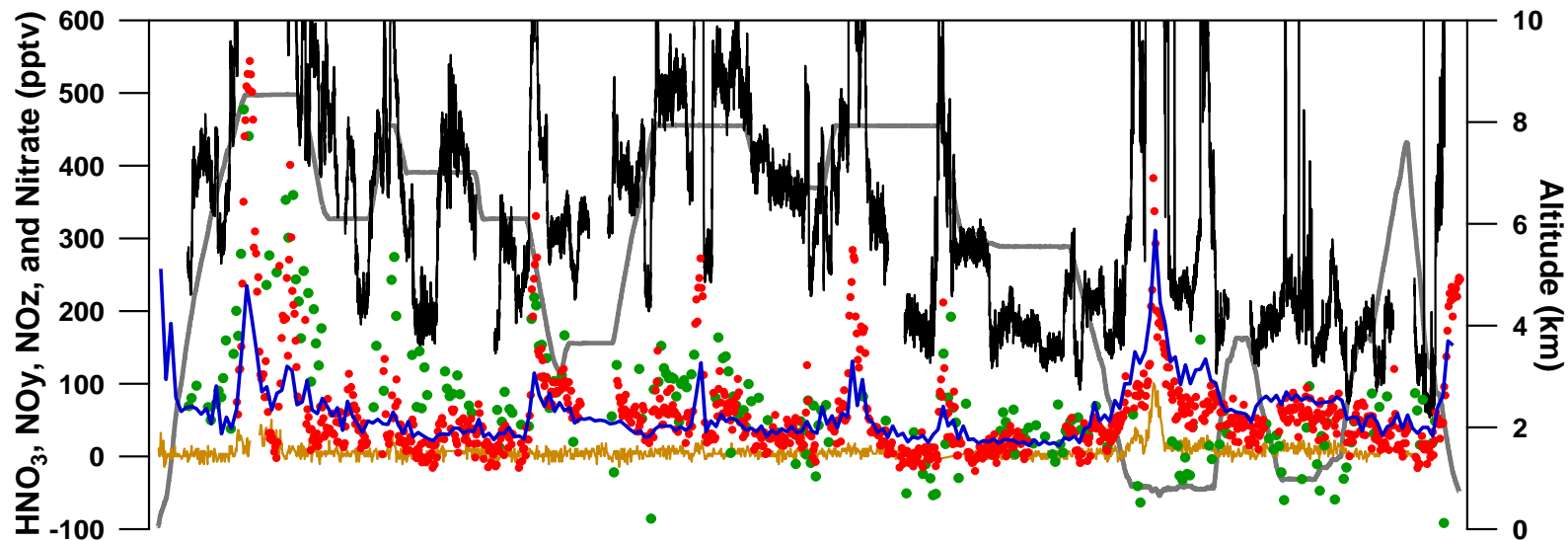
07/10/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



07/10/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1



07/13/2008

— MC HNO<sub>3</sub> R1 • CIMS HNO<sub>3</sub> R2 — NO<sub>y</sub> R3 • Filter NO<sub>3</sub> R1  
• NO<sub>z</sub> • delta (HNO<sub>3</sub>) — Temperature — DLH H<sub>2</sub>O R1

