

**Exp. 3: low HONO @ high NO_x / NO₃ / N₂O₅ (blind)
(Foreseen May 25th)**

Scheduling	Chamber	Motivation	Measurements
Morning	Flushed, dry chamber. Add NO max. 150 ppb, add O ₃ in steps up to <150 ppb O ₃	Conversion of NO into NO ₂ , without affecting the HONO level introduced by the NO. Check for positive NO ₂ interference in chemical instruments and negative interferences in DOAS / CEAS instruments.	Measurements on each concentration plateau.
Noon	Add another 150 ppb O ₃	Check for interference by NO ₃ and N ₂ O ₅ in the dark.	Measure for 1-2 hours
Afternoon	add NO	Remove N ₂ O ₅ and NO ₃ .	1 hour measurements
Afternoon	Add SO ₂ (50 ppb)	Check for potential interference by SO ₂ + NO ₂	1 hour measurements

Negative NO₂ interference DOAS:

Kleffmann, J., J. C. Lörzer, P. Wiesen, C. Kern, S. Trick, R. Volkamer, M. Rodenas and K. Wirtz: Intercomparisons of the DOAS and LOPAP Techniques for the Detection of Nitrous Acid (HONO), *Atmos. Environ.*, 2006, **40**, 3640-3652.

NO₂ + SO₂ interference:

Spindler, G., Hesper, J., Brüggemann, E., Dubois, R., Müller, Th., Herrmann, H.: Wet Annular Denuder Measurements of Nitrous Acid: Laboratory Study of the Artefact Reaction of NO₂ with S(IV) in Aqueous Solutions and Comparison with Field Measurements, *Atmos. Environ.*, 2003, **37**, 2643-2662.

Local Time	GMT	
8:00-08:30	6:00-06:30	Stop chamber flushing. Instruments preparation
08:30-09:00	06:30-07:00	SF6 addition. Background measurements.
09:00-09:10	07:00-07:10	NO injection
09:10-09:40	07:10-07:40	Measurements
09:40-09:43	07:40-07:43	O ₃ injection (50 ppb)
09:45-10:15	07:45-8:15	Measurements
10:15-10:18	8:15-8:18	O ₃ injection (+50 ppb)
10:20-10:50	8:20-8:50	Measurements
10:50-10:53	8:50-8:53	O ₃ injection (+ 50 ppb)
10:55-11:25	8:55-09:25	Measurements
11:25-11:35	09:25-09:35	O ₃ injection (+ 150 ppb)
11:40-13:40	09:40-11:40	Measurements
13:40-13:50	11:40-11:50	NO injection
13:50-14:50	11:50-12:50	Measurements
14:50-15:00	12:50-13:00	SO ₂ injection
15:00-16:00	13:00-14:00	Measurements
16:05	14:05	start chamber flushing