

## ***Interactive comment on “Production of HONO from heterogeneous uptake of NO<sub>2</sub> on illuminated TiO<sub>2</sub> aerosols measured by Photo-Fragmentation Laser Induced Fluorescence” by Joanna E. Dyson et al.***

**Yuri Bedjanian**

yuri.bedjanian@cnr-orleans.fr

Received and published: 4 December 2020

This short comment is intended simply to inform the authors of the existence of fairly extensive previous studies of the interaction of NO<sub>2</sub> with TiO<sub>2</sub> under UV irradiation:

El Zein, A.; Bedjanian, Y., Interaction of NO<sub>2</sub> with TiO<sub>2</sub> surface under UV irradiation: measurements of the uptake coefficient. *Atmos. Chem. Phys.* 2012, 12 (2), 1013-1020.

Bedjanian, Y.; El Zein, A., Interaction of NO<sub>2</sub> with TiO<sub>2</sub> Surface Under UV Irradiation:

C1

Products Study. *J. Phys. Chem. A* 2012, 116 (7), 1758-1764.

These studies report the measurements of the uptake coefficient and distribution of the reaction products (not only HONO, but also NO and N<sub>2</sub>O) as a function of irradiance intensity, relative humidity, temperature and concentrations of NO<sub>2</sub> and O<sub>2</sub>, i.e. they are directly related to the subject of the authors' paper and could at least be mentioned in the manuscript. By the way, the possible secondary reaction of HONO with TiO<sub>2</sub> which can occur in the reactive system was also investigated in our group:

El Zein, A.; Bedjanian, Y., Reactive uptake of HONO to TiO<sub>2</sub> surface: "dark" reaction. *J. Phys. Chem. A* 2012, 116 (14), 3665-3672.

El Zein, A.; Bedjanian, Y.; Romanias, M. N., Kinetics and products of HONO interaction with TiO<sub>2</sub> surface under UV irradiation. *Atmos. Environ.* 2013, 67 (0), 203-210.

---

Interactive comment on *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2020-1216>, 2020.

C2