

TM5-MP - Bug #23861

NH₂O₂ chemistry

01/09/2020 08:26 AM - Vincent Huijnen

Status:	New	Start date:	01/09/2020
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:	TM5-MP 4.0	Spent time:	0.00 hour
Description			
updated NH ₂ and NH ₂ O ₂ chemistry has been introduced in TM5-MP, according to the following reaction mechanism:			
NH ₃ + OH = NH ₂			
NH ₂ + NO = Products			
NH ₂ + NO ₂ = Products			
NH ₂ + HO ₂ = NH ₃			
NH ₂ + OH = Products			
NH ₂ = NO			
NH ₂ + O ₃ = NH ₂ O ₂			
NH ₂ O ₂ + NO = NH ₂ + NO ₂			
NH ₂ O ₂ + O ₃ = NH ₂			
NH ₂ O ₂ + HO ₂ = NH ₂			
This is documented in Williams et al. (GMD 2017), referring to Hauglustaine et al (ACP 2014). However, Hauglustaine et al (2014) does not define the tracer 'NH ₂ O ₂ ', but rather 'NH ₂ O'. With this change in tracer name, the reaction mechanism suggested by Jason seems basically consistent again with literature.			
Still I am not convinced whether the NH ₂ O chemistry is worth the inclusion, as many of the rates are estimated rather than observed. It seems more appropriate to follow more closely the mechanism proposed by Hauglustaine, (or simply neglect NH ₂ O chemistry). There seems little justification for this extended NH ₂ O chemistry?			

History

#1 - 01/09/2020 11:30 AM - Vincent Huijnen

- Description updated

#2 - 05/13/2020 12:10 PM - Philippe Le Sager

- Target version set to TM5-MP 4.0