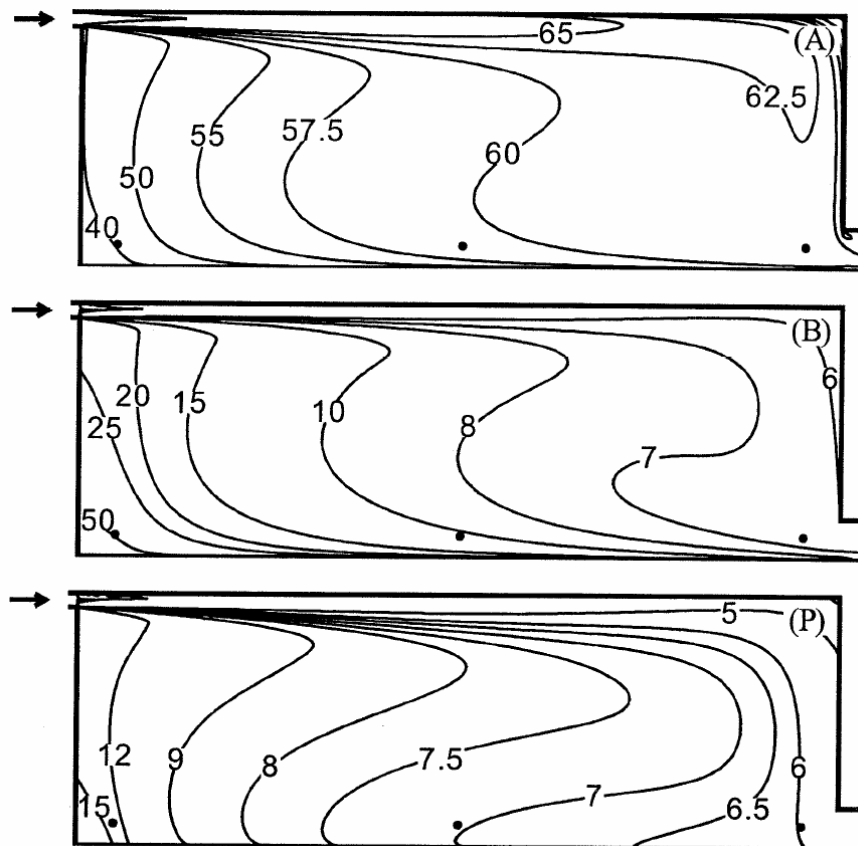


Sørensen, D.N. and C.J. Weschler, Model-Gas Phase Reactions in Indoor Environments Using Computational Fluid Dynamics, Atmospheric Environment 36 (2002) 9-18.

This CFD modelling study examines the concentrations of two gaseous compounds that react in an indoor setting. The reactants are ozone and either d-limonene or α -terpinene. In addition to two different terpenes, the scenarios include two air exchange rates (0.5 and 2.0 h^{-1}). The terpene is introduced as a floor source with an emission pattern similar to a floor-care product. The results show that for all four scenarios, under steady-state conditions, there are large concentration gradients within the room for both reactants and product. To some extent this is due to imperfect mixing. However, it also reflects that reactions occur at different rates across the room and that the time available for reactions to occur varies with the room location. The flow is simulated in the IEA 2D room.



An example showing the distribution of ozone (A), d-limonene (B), and product (P), $E_x = 2.0 \text{ h}^{-1}$.
Concentration in ppb.