

## 2.004 AeroCom Phase III Nitrate model experiment: a process-level understanding.

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Abstract:

Nitrate is an important aerosol component and impacts on atmospheric chemistry, radiative forcing, and ecosystem. A systematic multi-model experiment on the physical and chemical formation/loss processes for the atmospheric nitrate was proposed as a part of the AeroCom III study. We will present a process-level analysis of multi-model nitrate simulations and evaluate the results with various measurements from surface stations and aircraft measurements. Those studied processes include emission, dry deposition, wet deposition, thermodynamic chemistry, and heterogeneous chemistry. Such an analysis not only reveals diversity of nitrate simulation among the AeroCom models, but also helps us understand the reasons causing the diversity.