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An Intercomparison of Coupled Modes and Their Relation to Ozone in Different CCMs

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We will use singular value decomposition of geopotential heights and ozone to extract characteristic spatial and temporal patterns from a number of coupled chemistry-climate models and ERA-40. (Note that the ERA-40 total ozone is the same as the TOMS data were measurements are available.) We restrict our analysis to 1980-1999. Focussing on the Northern Hemisphere during winter, we validate the model systems with respect to ERA-40 using covariances of reconstructed ozone and geopotential height fields. We will illustrate the coupling between dynamics and chemistry in the different model systems and we will discuss apparent differences and similarities between the models and the observational evidence ("ERA-40 world").