Stratospheric variability and stratosphere-troposphere coupling in high versus low resolution simulations within the H2020 PRIMAVERA Project

Chiara CAGNAZZO¹, Federico SERVA¹ Susanna CORTI², Irene MAVILIA², Paolo DAVINI³, Jost von Hardenberg³, and the PRIMAVERA Team

¹ Istituto di Scienze dell'Atmosfera e Clima, Consiglio Nazionale delle Ricerche (ISAC-CNR), Roma, Italy
² Istituto di Scienze dell'Atmosfera e Clima, Consiglio Nazionale delle Ricerche (ISAC-CNR), Bologna, Italy
³ Istituto di Scienze dell'Atmosfera e Clima, Consiglio Nazionale delle Ricerche (ISAC-CNR), Torino, Italy

The H2020 PRIMAVERA Project aims at developing a new generation of global high-resolution climate models. A set of simulations in High and Low horizontal resolution versions have been recently produced and delivered to the project. Even if the focus is on horizontal resolution, resolved waves as well as feedbacks on parameterized subgrid waves effect may impact the simulated stratospheric mean flow and its variability. We analyse here the (tropical / extratropical) stratospheric variability and the stratosphere-troposphere coupling in the two model settings.

Key words: Stratoshperic Variability, Stratoshere-Troposphere coupling ·High Resolution Models