Geophysical Research Abstracts, Vol. 9, 10572, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-10572

Physical climate feedbacks and climate sensitivity: what progress since the TAR?

S. Bony (1), R. Colman (2) and V. Kattsov (3)

(1) LMD/IPSL, Paris, France, (2) BMRC, Melbourne, Australia, (3) VMGO, St. Petersburg, Russia (bony@lmd.jussieu.fr)

Climate sensitivity, commonly defined as the global mean surface temperature change caused by a doubling of atmospheric carbon dioxide, plays a central role in climate change studies. The range of climate sensitivity estimates from general circulation models remains large. This range stems primarily from intermodel differences in the treatment of climate feedbacks.

In this talk, we will first review the progress that there has been since the Third Assessment Report (TAR) of the IPCC in the interpretation of intermodel differences in climate feedbacks (the focus will be on climate models that have participated in the Fourth Assessment Report of the IPCC). Then, we will present some methodologies that have been developed to evaluate some components of these feedbacks using observations. Finally, we will present some projects or initiatives aiming at improving our understanding and our assessment of climate change feedback processes based on models and on observations.