

EINLADUNG ZUM  
**WIENER PHYSIKALISCHEN KOLLOQUIUM**

**Climate change:  
The physical basis and latest results**

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The latest Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) concludes: "*Warming in the climate system is unequivocal.*" Without the contribution of Physics to climate science over many decades, such a statement would not have been possible. Experimental physics enables us to read climate archives such as polar ice cores and so provides the context for the current changes. For example, today the concentration of CO<sub>2</sub> in the atmosphere, the second most important greenhouse gas, is 29% higher than any time during the last 800,000 years. Classical fluid mechanics and numerical mathematics are the basis of climate models from which estimates of future climate change are obtained. But major instabilities and surprises in the Earth System are still unknown. Only Physics will permit us to further improve our understanding in order to provide the foundation for policy decisions facing the global climate change challenge.

**Montag, 18. Jänner 2010, 17:30 Uhr**  
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