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【23】 Educational considerations on the physics of global warming

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One of the goals of school education is to familiarize the younger generation with basic facts about climate and climate change, and to stimulate their independent thinking about these issues. For physics teachers, this is not an easy task and raises numerous didactic questions. After all, phenomena and concepts needed in order to explain why the earth is warming (such as thermal radiation, absorption and emission by invisible gases, and the Stefan-Boltzmann law) are not really prominent among the traditional topics of physics education. Moreover, when it comes to address the inertia of the climate system, the role of the oceans as a huge heat reservoir, and the future of the earth's climate, as measured in centuries and millennia, we encounter the problem that thermodynamics as usually taught in school does not tell us much about time scales of equilibration processes. In the talk, some contact points between school physics and the physics of global warming are identified.

Theoretical Work

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