2nd International Conference on

ASTROPHYSICS AND PARTICLE PHYSICS

November 13-15, 2017

San Antonio, USA

Absorption coefficient across atmospheric troposphere layer

Wei Peng-Sheng National Sun Yat-Sen University, Taiwan

The absorption coefficient of carbon dioxide is responsible for temperature in the troposphere layer, which is less than the altitude of 10 km in the atmosphere, is presented in this work. It has been well known that the solar irradiation can penetrate through the troposphere layer within short wavelength range near the visible range. It can be absorbed, scattered by the atmosphere and absorbed and reflected by the earth ground. The ground emits radiation in the ranges of long wavelengths. In the presence of carbon dioxide and other emission gases, the atmosphere layer acting as the glass of a greenhouse increases temperature of the atmosphere. Even though global warming strongly affects the life of the human being, the cause of global warming is still controversial. This work thus establishes a fundamental, systematical and quantitative analysis of absorption coefficient of carbon dioxide is absorbed in long wavelength bands centered at 15, 10.4, 9.4, 4.3, 2.7 and 2.0 micrometers, respectively. The predict absorption coefficients agree with experimental and theoretical results in the exponential wide band model in different bands. The computed results are confirmed by experimental data, revealing the effects of carbon dioxide on temperatures in the troposphere.

Biography

Wei Peng-Sheng has received his PhD in Mechanical Engineering Department at University of California, Davis. He has been a Professor in the Department of Mechanical and Electro-Mechanical Engineering of National Sun Yat-Sen University, Kaohsiung, Taiwan, since 1989. He has contributed to advancing the understanding of and to the applications of electron and laser beam, plasma and resistance welding through theoretical analyses coupled with verification experiments and investigations also include studies of their thermal and fluid flow processes and formations of the defects such as humping, rippling, spiking and porosity. He has published more than 80 SCI journal papers, given keynote or invited speeches in international conferences more than 110 times. He is a Fellow of AWS (2007) and a Fellow of ASME (2000). He also received the Outstanding Research Achievement Awards from both the National Science Council (2004) and NSYSU (1991, 2001, 2004), the Outstanding Scholar Research Project Winner Award from National Science Council (2008), the Adams Memorial Membership Award from AWS (2008), the Warren F Savage Memorial Award from AWS (2014). He has been the Xi-Wan Chair Professor of NSYSU since 2009 and Invited Distinguished Professor in the Beijing University of Technology, China, during 2015-2017.

pswei@mail.nsysu.edu.tw

Notes: