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Remote Sensing of Atmospheric Carbon Dioxide

Guest Editor:

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Message from the Guest Editor

Atmospheric carbon dioxide is a dominant greenhouse gas that influences global warming and climate change, and significantly contributes to the carbon cycle on Earth. An understanding of carbon dioxide sources, sinks, and transport flux is critical for developing assessments through the scientific community and informing policymakers. Mitigating carbon dioxide upsurge is a societal issue that requires continuous monitoring and evaluations through current measurement techniques and improved future technologies.

The goal of this Special Issue is to embrace a variety of established and ongoing research activities regarding techniques and technologies for atmospheric carbon dioxide measurements. In particular, active and passive remote sensors, which provide high spatial and temporal throughput, are needed to develop future warming estimates and climate predictions. In addition, in-situ sensors, which provide high-accuracy measurements, but with limited coverage, are required for remote sensing validations.

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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