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Control and Transform of Laser Beams in Atmosphere

Guest Editor:

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Deadline for manuscript submissions:
closed (31 May 2023)

Message from the Guest Editor

Dear Colleagues,

Propagation of laser beams in atmosphere have wide applications. Many inescapability factors, such as absorption and scattering of molecules, turbulence of atmosphere, and complex weather conditions will affect the beam propagation, result in the energy loss, beam spread, and distortions in its wavefront. To reduce the effect of atmosphere on beam propagation, optical communication, and detection of object, many methods and technology are emerging with the development of new detection technology and modulation of light in recent years. We welcome topics including but not limited to:

(1) Classical optics: the properties of laser in turbulence;

(2) Beam control and adaptive optics: the methods of beam control;

(3) Free space optical communication and optical remote sensing: novel modulation method, high data rates, privacy;

(4) Image processing: image process in complex environment;

(5) Machine vision: detection of target for long distance by machine vision, recognition, tracking and pointing of motion object.

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Editor-in-Chief

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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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