



## Space LiDAR Technologies and Applications

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### Message from the Guest Editor

LiDAR, light detection and ranging using lasers is an active remote sensing technique that continues to experience significant advances and progress for space applications. Laser ranging technology was firstly applied in 1964 to determine the orbit of the Beacon Explorer-B satellite equipped with a laser retro-reflector array and provided the precision level of several meters at that time. However, Space LiDAR has been considered a promising sensor for the many space missions because the round-trip flight time of laser pulses provides meter or even centimeter range resolution by employing ultra-short pulse lasers. In addition, precise laser ranging is also required to improve the orbital prediction accuracy of space debris for mitigation or elimination of a significant threat to human space activities as well as operational satellites. Currently, Space LiDAR have reached a high degree of maturity and sophistication thanks to the innovative development of optical and electronic technologies which allow for successful implementation in space missions. Hence, this Special Issue calls for not only innovative and challenging technologies but also applications related to Space LiDAR.

