三维激光雷达技术在输电线路运行与维护的应用

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摘要：三维激光测量技术为空间三维信息的获取提供了全新的手段。介绍了三维激光雷达技术在输电线路运行与维护的应用，包括线路走廊危险地物检测、电力线间距离精细量测、输电线路三维可视化管理、线路走廊地形地貌变化检测、已有输电线路的增容分析和新建线路的树木砍伐评估，并给出激光雷达技术在我国输电线路运维中应用的实例。

关键词：激光雷达；直升机巡线；输电线路维护

Application of the Lidar Technology on Operation and Maintenance of Power Transmission Lines

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Abstract: Lidar technology provides new tools to get 3D geographic information. Applications of the technology in power transmission system are introduced in this paper as following: risky objects examination along line, automatic adequate clearances between conductors and objects below ensurance, finely measurement of the interval between conductors, transmission line 3D visualization management, topography change detection along corridors, re-rating, vegetation evaluation and management along transimission line. Furthermore, certain examples of lidar technology adopted in operation and maintenance of transmission line in China are addressed.

Key words: lidar; helicopter powerline inspection; powerline maintenance