



---

The 2019 General Meeting and PIESA-IERE South Africa Forum  
October 28-31, 2019

## **A Real-world dataset for automatic visual diagnosis of power transmission lines**

**Min-Hee Choi, Nam-Joon Jung, Chan-Uk Lim**  
**Senior Researcher, Digital Solution Lab., KEPCO Research Institute**  
**Daejeon-Si, South Korea**

**Keywords:** (*Power Transmission Line Inspection Drone, Facility Inspection, Automatic Facility/Fault Detection, dataset for machine learning* )

### **Abstract**

KEPCO Research Institute uses drones to inspect the condition of power transmission lines and facilities. To that end, KEPCO developed drones with autonomous flight functions and high-resolution optical camera. The drone flies for about 20 minutes and shoots videos of the power lines. The capacity of the video recorded is more than 1GByte. Diagnose abnormal conditions of power transmission lines and installations by checking the video clip by the tester. We are developing a technology that automates the inspection process by using AI technology. This requires the developments of a technology that automatically finds frames containing facilities of interest in the video and automatically determines the condition of the discovered facilities. In this paper, describe how to organize and build a dataset for machine learning for automatic detection and diagnosis of transmission power line and facilities.