

Figure 10. Sag detection

3.5. Dangerous Point Detection

Ground features, hills, buildings and trees are potential safety hazards of transmission line, detecting these dangerous points is the focus of power line inspection. According to the safe distance requirements in the "overhead transmission line operating specifications DLT741-2010" appendix A1-A10, this paper excluded a potential dangerous point in JinSu transmission line No.80-83 poles, just as shown in Figure 11, by measuring the minimum distance between the Transmission Line Class and the Ground Class/Plant Class with the usage of the TerraScan.

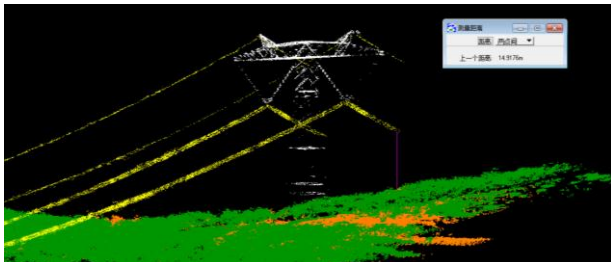


Figure 11. Dangerous point detection

4. DISCUSSION AND CONCLUSIONS

Based on the applications of the aforementioned power line inspection test, AOEagle's performance has been well verified, especially in the mountains. AOEagle is advantageous in terms of price and agility. High-precision ground resolution and high operating efficiency also validate the wide application prospects of Mini-LiDAR in power line inspection field.

AOEagle is not limited to unmanned aerial vehicles (UAVs), which can also be mounted on the car and other platforms. Furthermore, AOEagle can be integrated with other devices, such as CCD camera. AOEagle's performance in other areas, such as 3D city modeling and forestry resources, will be discussed in the next steps.

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