

Measuring Plant Area Index (PAI) from panorama photo images.

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Forest inventory requires significant financial investment and is labor intensive. Despite efforts of most forest management agencies, field inventory is often quite inefficient with final sample proportions less than 1%. In addition, measurement results are influenced by many factors, and correcting errors often requires revisiting field sites and/or complex rules that may introduce bias. Foresters have always searched for more efficient methods to obtain forest parameters, such as plant area index (PAI). In this study, a novel method to calculate the PAI from panorama photos is described which includes the projection transverse and threshold classification. This method works well in cloudy days but can be easily affected by sun spots on tree stems on sunny days.

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