**Supplementary Material**
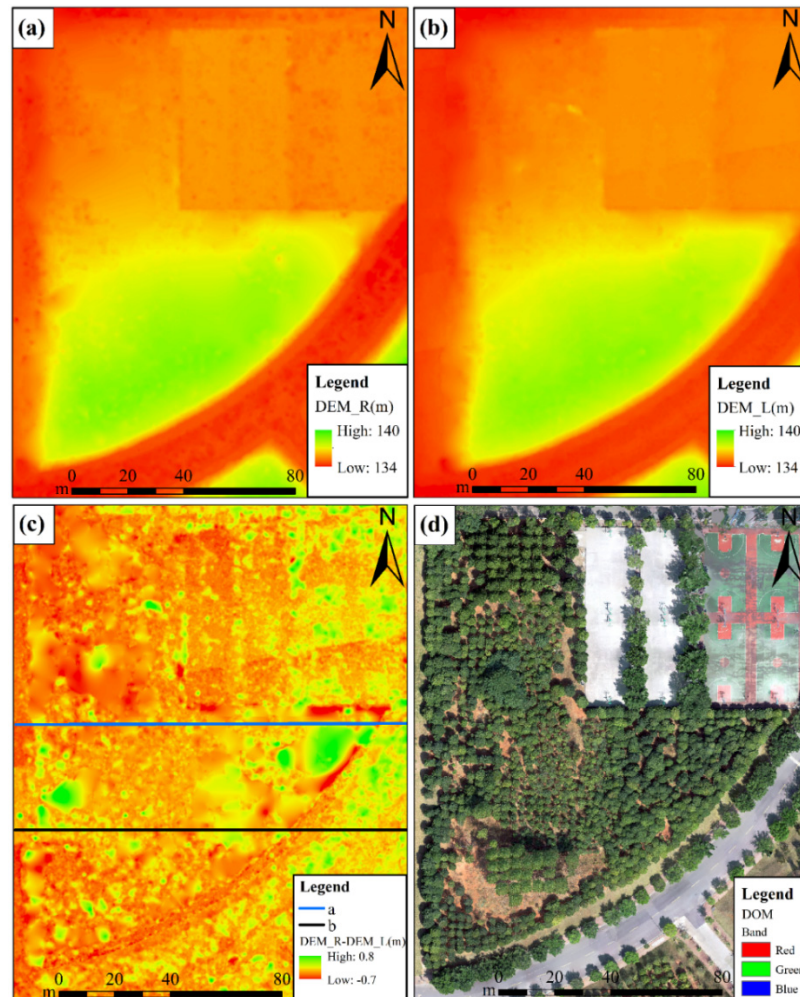
**Compare the elevation difference between DEMR and DEML at two different cross sections**

In order to visually represent the spatial distribution of DEMR and DEML within the study area, as well as the difference between them, the difference between DEMR and DEML is evaluated, and the results are shown in Figure S1.
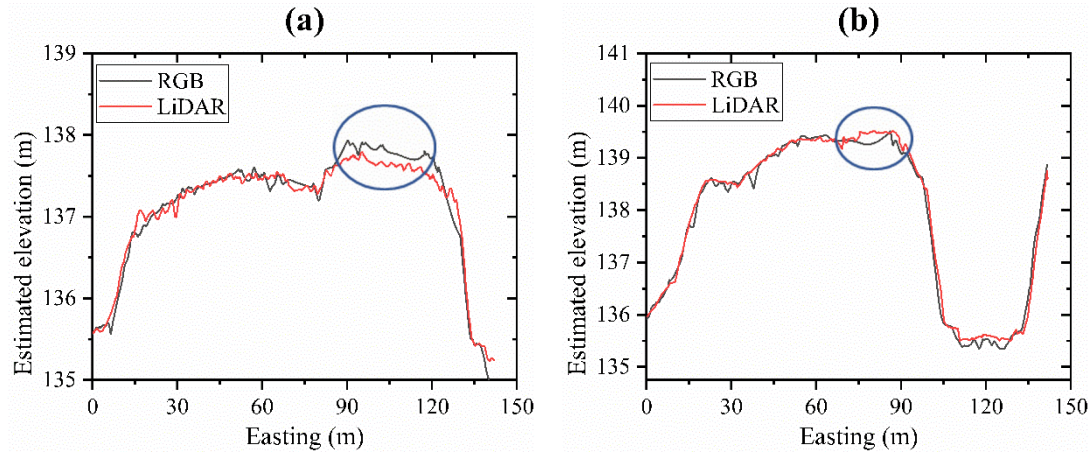


**Figure S1.** DEM data and Digital Orthophoto Map: (a) DEMR derived from UAV stereo images; (b) DEML derived from UAV-LiDAR data; (c) a spatial distribution map of the elevation difference between DEMR and DEML; and (d) a Digital Orthophoto Map.

The elevation values of DEML and DEMR were both between 134 m and 140 m (Figure S1). The DEMR exhibited poor smoothness. In contrast, the DEML exhibited a favorable degree of smoothness. This was mainly due to the data used to generate the DEM. For example, LiDAR can penetrate the forest canopy to reach the ground and obtain relatively more ground points; thus, the resulting DEM data is relatively smooth. However, the majority of the point cloud data derived from stereo images is canopy point cloud data, and ground point cloud data are relatively rare. Therefore, the DEM data derived from stereo images were slightly rough in some areas with large canopy closure as well as poor smoothness. This leads to errors in the generated DEM data, as shown in Figure S1 (c). The elevation difference between DEML and DEMR was between -0.7 m and 0.8 m, and the most significant difference occurred primarily in

areas exhibiting obvious pits and poor smoothness of DEM$_R$.

In order to further demonstrate the elevation difference between DEM$_R$ and DEM$_L$ on the same cross-section, two regions (cross-section a and cross-section b in Figure S1(c)), one with a relatively high and the other with a relatively low stand density, were designated within the study area. The elevation distributions of the two datasets on cross-section (a) and cross-section (b) were plotted, respectively. The results are shown in Figure S2.



**Figure S2.** The elevation difference between DEM$_R$ and DEM$_L$: (a) Elevation difference between DEM$_R$ and DEM$_L$ on cross-section (a); (b) Elevation difference between DEM$_R$ and DEM$_L$ on cross-section (b).

Figure S2 shows that the elevation difference between DEM$_L$ and DEM$_R$ exhibited relatively similar elevation estimations in areas with a low forest canopy density. As a result of the increase in forest canopy density, the difference between the elevation values of DEM$_R$ and DEM$_L$ also tends to increase, especially in areas exhibiting significant topographic changes underneath the forest, as shown in the marked area in Figure S2. The results indicate that DEM$_L$ is superior to DEM$_R$ in describing understory terrain details. However, in areas with large elevation changes, the difference between the elevations of the two datasets is relatively small. Since there are no trees planted in the areas with large elevation changes, mostly grasslands, the difference between the two elevations is relatively small.