

DEVELOPMENT OF AN ACACIA KOA DISCRIMINATION INDEX FOR HIGH RESOLUTION HYPERSPECTRAL DATA

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Abstract:

In 2010, a Specim AISA Eaglet sensor was flown by helicopter over a site on the island of Hawaii. Ground data of tree locations and foliar chemistry were taken the previous fall. Acacia koa (*A. koa*), trees native to Hawaii, were found to have a distinct spectral feature at approximately 450nm. A continuum removal process was developed for the remotely sensed hyperspectral data which accentuates this unique feature and differentiates *A. koa* from Douglas-fir and *Cryptomeria japonica*. A unique enhancement of reflection was detected at 0.5 m in the *Cryptomeria japonica* arising from the structural creation of a bowl shaped feature that was confirmed with high resolution lidar.