

Aerosol optical depth derived from SPOT satellite images

C. H. Liu^a and N.-H. Lin^b

^a Department of Environmental Resources Management, Transworld University,
No.1221, Zhennan Rd., Douliu City, Yunlin County 640, Taiwan;

Tel: +886(5) -5370-988#8106; Fax. +886(5) -5370-989

E-mail: chliu@twu.edu.tw

^b Department of Atmospheric Sciences, National Central University,
No.300, Jhongda Rd., Jhongli City, Taoyuan County 32001, Taiwan;

Tel: +886(3) – 4254-069; Fax. +886(3) – 4254-069

E-mail: nhlin@cc.ncu.edu.tw

KEY WORDS: Remote Sensing, SPOT, aerosol optical depth

Abstract: This research is aimed to retrieving aerosol optical depth (AOD) using 35 SPOT satellite images over Jhongli, Taiwan. Dark target method is applied to retrieve AOD from SPOT. Sunphotometer-measured AOD data obtained at EPA-NCU station (part of NASA AERONET) are used to compare with derived AOD by SPOT. The 6S radiative transfer code is implemented to simulate the top-of-atmosphere reflectance. Continental aerosol model is selected. The results show that the root-mean-square error between SPOT-derived and measured AOD can be lower than 0.15.