

# References for package “hsdar”

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## References

- Apan, A., Held, A., Phinn, S., Markley, J., Jan. 2004. Detecting sugarcane “orange rust” disease using EO-1 Hyperion hyperspectral imagery. *International Journal of Remote Sensing* 25 (2), 489–498.
- Bach, H., 1995. Die Bestimmung hydrologischer und landwirtschaftlicher Oberflächenparameter aus hyperspektralen Fernerkundungsdaten. *Münchner Geographische Abhandlungen Reihe B, Band B21*.
- Ben-Dor, E., Levin, N., Singer, A., Karnieli, A., Braun, O., Kidron, G., Mar. 2006. Quantitative mapping of the soil rubification process on sand dunes using an airborne hyperspectral sensor. *Geoderma* 131 (1-2), 1–21.
- Blackburn, G. A., 1998. Quantifying chlorophylls and carotenoids at leaf and canopy scales: An evaluation of some hyperspectral approaches. *Remote Sensing of Environment* 66 (3), 273 – 285.
- Boochs, F., Kupfer, G., Dockter, K., Kühbauch, W., 1990. Shape of the red edge as vitality indicator for plants. *International Journal of Remote Sensing* 11 (10), 1741–1753.
- Broge, N., Leblanc, E., 2001. Comparing prediction power and stability of broadband and hyperspectral vegetation indices for estimation of green leaf area index and canopy chlorophyll density. *Remote Sensing of Environment* 76 (2), 156 – 172.
- Carter, G. A., 1994. Ratios of leaf reflectances in narrow wavebands as indicators of plant stress. *International Journal of Remote Sensing* 15 (3), 697–703.
- Chappelle, E. W., Kim, M. S., McMurtrey, J. E., 1992. Ratio analysis of reflectance spectra (rars) - An algorithm for the remote estimation of the concentrations of chlorophyll-a, chlorophyll-b, and carotenoids in soybean leaves. *Remote Sensing of Environment* 39 (3), 239–247.
- Chen, J. M., 1996. Evaluation of vegetation indices and a modified simple ratio for boreal applications. *Canadian Journal of Remote Sensing* 22, 229–242.

- Clark, R. N., King, T. V. V., Gorelick, N. S., 1987. Automatic continuum analysis of reflectance spectra. In: Proceedings of the Third Airborne Imaging Spectrometer Data Analysis Workshop. pp. 138–142.
- Dash, J., Curran, P. J., 2004. The MERIS terrestrial chlorophyll index. *International Journal of Remote Sensing* 25 (23), 5403–5413.
- Datt, B., 1998. Remote sensing of chlorophyll a, chlorophyll b, chlorophyll a+b, and total carotenoid content in *Eucalyptus* leaves. *Remote Sensing of Environment* 66 (2), 111 – 121.
- Datt, B., 1999a. Remote sensing of water content in *Eucalyptus* leaves. *Australian Journal of Botany* 47 (6), 909–923.
- Datt, B., 1999b. Visible/near infrared reflectance and chlorophyll content in *Eucalyptus* leaves. *International Journal of Remote Sensing* 20 (14), 2741–2759.
- Daughtry, C., Walthall, C., Kim, M., de Colstoun, E., III, J. M., 2000. Estimating corn leaf chlorophyll concentration from leaf and canopy reflectance. *Remote Sensing of Environment* 74 (2), 229 – 239.
- Elvidge, C. D., Chen, Z. K., 1995. Comparison of broad-band and narrow-band red and near-infrared vegetation indexes. *Remote Sensing of Environment* 54 (1), 38–48.
- Escadafal, R., Belghith, A., Ben Moussa, H., 1994. Indices spectraux pour la dégradation des milieux naturels en Tunisie aride. In: 6ème Symp. Int. Mesures Physiques et Signatures en Télédétection. Val d’Isère, France.
- Escadafal, R., Huete, A., 1991. Étude des propriétés spectrales des sols arides appliquée à l’amélioration des indices de végétation obtenus par télédétection. In: Comptes-rendus de l’Académie des Sciences de Paris, Série 312. pp. 1385–1391.
- Filella, I., Peñuelas, J., 1994. The red edge position and shape as indicators of plant chlorophyll content, biomass and hydric status. *International Journal of Remote Sensing* 15 (7), 1459–1470.
- Galvão, L. S., Formaggio, A. R., Tisot, D. A., 2005. Discrimination of sugarcane varieties in southeastern Brazil with EO-1 Hyperion data. *Remote Sensing of Environment* 94 (4), 523–534.
- Gamon, J., nuelas, J. P., Field, C., 1992. A narrow-waveband spectral index that tracks diurnal changes in photosynthetic efficiency. *Remote Sensing of Environment* 41 (1), 35 – 44.
- Gandia, S., Fernández, G., García, J., Moreno, J., 2004. Retrieval of vegetation biophysical variables from CHRIS/PROBA data in the SPARC campaign. In: ESA SP. Vol. 578. pp. 40–48.

- Gao, B.-c., 1996. NDWI - A normalized difference water index for remote sensing of vegetation liquid water from space. *Remote Sensing of Environment* 58 (3), 257 – 266.
- Garrity, S. R., Eitel, J. U., Vierling, L. A., 2011. Disentangling the relationships between plant pigments and the photochemical reflectance index reveals a new approach for remote estimation of carotenoid content. *Remote Sensing of Environment* 115 (2), 628 – 635.
- Gitelson, A., Buschmann, C., Lichtenthaler, H., 1999. The chlorophyll fluorescence ratio F735/F700 as an accurate measure of the chlorophyll content in plants - Experiments with autumn chestnut and maple leaves. *Remote Sensing of Environment* 69 (3), 296–302.
- Gitelson, A., Merzlyak, M. N., 1994. Quantitative estimation of chlorophyll-a using reflectance spectra: Experiments with autumn chestnut and maple leaves. *Journal of Photochemistry and Photobiology B: Biology* 22 (3), 247 – 252.
- Gitelson, A., Y, G., MN., M., 2003. Relationships between leaf chlorophyll content and spectral reflectance and algorithms for non-destructive chlorophyll assessment in higher plant leaves. *Journal of Plant Physiology* 160 (3), 271–282.
- Gitelson, A. A., Kaufman, Y. J., Merzlyak, M. N., 1996. Use of a green channel in remote sensing of global vegetation from EOS-MODIS. *Remote Sensing of Environment* 58 (3), 289 – 298.
- Gitelson, A. A., Merzlyak, M. N., 1997. Remote estimation of chlorophyll content in higher plant leaves. *International Journal of Remote Sensing* 18 (12), 2691–2697.
- Guyot, G., Baret, F., 1988. Utilisation de la haute resolution spectrale pour suivre l'état des couverts vegetaux. In: Guyenne, T. D., Hunt, J. J. (Eds.), *Spectral Signatures of Objects in Remote Sensing*. Vol. 287 of ESA Special Publication. pp. 279–286.
- Haboudane, D., Miller, J. R., Tremblay, N., Zarco-Tejada, P. J., Dextraze, L., 2002. Integrated narrow-band vegetation indices for prediction of crop chlorophyll content for application to precision agriculture. *Remote Sensing of Environment* 81 (2-3), PII S0034-4257(02)00018-4.
- Haubrock, S.-N., Chabrillat, S., Lemmnitz, C., Kaufmann, H., Jan. 2008. Surface soil moisture quantification models from reflectance data under field conditions. *International Journal of Remote Sensing* 29 (1), 3–29.
- Hernández-Clemente, R., Navarro-Cerrillo, R. M., Suárez, L., Morales, F., Zarco-Tejada, P. J., 2011. Assessing structural effects on PRI for stress detection in conifer forests. *Remote Sensing of Environment* 115 (9), 2360 – 2375.

- Hernández-Clemente, R., Navarro-Cerrillo, R. M., Zarco-Tejada, P. J., 2012. Carotenoid content estimation in a heterogeneous conifer forest using narrow-band indices and PROSPECT + DART simulations. *Remote Sensing of Environment* 127 (0), 298 – 315.
- Huete, A., 1988. A soil-adjusted vegetation index (SAVI). *Remote Sensing of Environment* 25, 295–309.
- Huete, A., Liu, H., Batchily, K., van Leeuwen, W., 1997. A comparison of vegetation indices over a global set of TM images for EOS-MODIS. *Remote Sensing of Environment* 59 (3), 440 – 451.
- Hunt, E. R., Doraiswamy, P. C., McMurtrey, J. E., Daughtry, C. S. T., Perry, E. M., Akhmedov, B., 2013. A visible band index for remote sensing leaf chlorophyll content at the canopy scale. *International Journal of Applied Earth Observation and Geoinformation* 21, 103–112.
- Hunt, E. R., Rock, B. N., 1989. Detection of changes in leaf water-content using near-infrared and middle-infrared reflectances. *Remote Sensing of Environment* 30 (1), 43–54.
- Jacquemoud, S., Baret, F., 1990. Prospect - a model of leaf optical-properties spectra. *Remote Sensing of Environment* 34 (2), 75–91.
- Jacquemoud, S. A., Verhoef, W., Baret, F., Bacour, C., Zarco-Tejada, P. J., Asner, G. P., Francois, C., Ustin, S. L., 2009. PROSPECT + SAIL models: A review of use for vegetation characterization. *Remote Sensing of Environment* 113, Supplement 1 (0), 56 – 66.
- Jordan, C. F., 1969. Derivation of leaf-area index from quality of light on forest floor. *Ecology* 50 (4), 663–&.
- Kim, M., Daughtry, C., Chappelle, E., McMurtrey, J., Walthall, C., 1994. The use of high spectral resolution bands for estimating absorbed photosynthetically active radiation (Apar). In: *Proceedings of the Sixth Symposium on Physical Measurements and Signatures in Remote Sensing*. Val D’Isere, France, pp. 299–306.
- Kruse, F. A., Lefkoff, A. B., Boardman, J. W., Heidebrecht, K. B., Shapiro, A. T., Barloon, P. J., Goetz, A. F. H., 1993. The spectral image processing system (SIPS) – interactive visualization and analysis of imaging spectrometer data. *Remote Sensing of Environment* 44 (2-3), 145–163.
- le Maire, G., Francois, C., Dufrene, E., 2004. Towards universal broad leaf chlorophyll indices using PROSPECT simulated database and hyperspectral reflectance measurements. *Remote Sensing of Environment* 89 (1), 1–28.
- le Maire, G., François, C., Soudani, K., Berveiller, D., Pontailier, J.-Y., Bréda, N., Genet, H., Davi, H., Dufrêne, E., 2008. Calibration and validation of hyperspectral indices for the estimation of broadleaved forest leaf chlorophyll

- content, leaf mass per area, leaf area index and leaf canopy biomass. *Remote Sensing of Environment* 112 (10), 3846 – 3864.
- Levin, N., Kidron, G. J., Ben-dor, E., 2007. Surface properties of stabilizing coastal dunes: Combining spectral and field analyses. *Sedimentology* 54 (4), 771–788.
- Lichtenthaler, H. K., Lang, M., Sowinska, M., Heisel, F., Miehe, J. A., 1996. Detection of vegetation stress via a new high resolution fluorescence imaging system. *Journal of Plant Physiology* 148 (5), 599–612.
- Lobell, D. B., Asner, G. P., Law, B. E., Treuhaft, R. N., 2001. Subpixel canopy cover estimation of coniferous forests in Oregon using SWIR imaging spectrometry. *Journal of Geophysical Research* 106 (D6), 5151–5160.
- Maccioni, A., Agati, G., Mazzinghi, P., 2001. New vegetation indices for remote measurement of chlorophylls based on leaf directional reflectance spectra. *Journal of Photochemistry and Photobiology B: Biology* 61 (1-2), 52 – 61.
- Madeira, J., Bedidi, A., Cervelle, B., Pouget, M., Flay, N., Sep. 1997. Visible spectrometric indices of hematite (Hm) and goethite (Gt) content in lateritic soils: The application of a Thematic Mapper (TM) image for soil-mapping in Brasilia, Brazil. *International Journal of Remote Sensing* 18 (13), 2835–2852.
- Mathieu, R., Pouget, M., Cervelle, B., Escadafal, R., Oct. 1998. Relationships between satellite-based radiometric indices simulated using laboratory reflectance data and typic soil color of an arid environment. *Remote Sensing of Environment* 66 (1), 17–28.
- McMurtrey, J. E., Chappelle, E. W., Kim, M. S., Meisinger, J. J., Corp, L. A., 1994. Distinguishing nitrogen-fertilization levels in-field corn (*Zea mays* L) with actively induced fluorescence and passive reflectance measurements. *Remote Sensing of Environment* 47 (1), 36–44.
- McNairn, H., Protz, R., 1993. Mapping corn residue cover on agricultural fields in Oxford County, Ontario, using Thematic Mapper. *Canadian Journal of Remote Sensing* 19 (2), 152–159.
- Merzlyak, M. N., Gitelson, A. A., Chivkunova, O. B., Rakitin, V. Y., 1999. Non-destructive optical detection of pigment changes during leaf senescence and fruit ripening. *Physiologia Plantarum* 106 (1), 135–141.
- Mutanga, O., Skidmore, A., 2004a. Hyperspectral band depth analysis for a better estimation of grass biomass (*Cenchrus ciliaris*) measured under controlled laboratory conditions. *International Journal of applied Earth Observation and Geoinformation* 5 (2), 87–96.

- Mutanga, O., Skidmore, A. K., 2004b. Narrow band vegetation indices overcome the saturation problem in biomass estimation. *International Journal of Remote Sensing* 25 (19), 3999–4014.
- Nagler, P. L., Inoue, Y., Glenn, E., Russ, A., Daughtry, C., 2003. Cellulose absorption index (CAI) to quantify mixed soil-plant litter scenes. *Remote Sensing of Environment* 87 (2-3), 310 – 325.
- Oppelt, N., Mauser, W., 2004. Hyperspectral monitoring of physiological parameters of wheat during a vegetation period using AVIS data. *International Journal of Remote Sensing* 25 (1), 145–159.
- Peñuelas, J., Baret, F., Filella, I., 1995a. Semiempirical indexes to assess carotenoids chlorophyll-a ratio from leaf spectral reflectance. *Photosynthetica* 31 (2), 221–230.
- Peñuelas, J., Filella, I., Lloret, P., Muñoz, F., Vilajeliu, M., 1995b. Reflectance assessment of mite effects on apple trees. *International Journal of Remote Sensing* 16 (14), 2727–2733.
- Peñuelas, J., Gamon, J. A., Fredeen, A. L., Merino, J., Field, C. B., 1994. Reflectance indexes associated with physiological-changes in nitrogen-limited and water-limited sunflower leaves. *Remote Sensing of Environment* 48 (2), 135–146.
- Peñuelas, J., Piñol, J., Ogaya, R., Filella, I., 1997. Estimation of plant water concentration by the reflectance water index WI (R900/R970). *International Journal of Remote Sensing* 18 (13), 2869–2875.
- Qi, J., Chehbouni, A., Huete, A., Kerr, Y., Sorooshian, S., 1994. A modified soil adjusted vegetation index. *Remote Sensing of Environment* 48 (2), 119 – 126.
- Rondeaux, G., Steven, M., Baret, F., 1996. Optimization of soil-adjusted vegetation indices. *Remote Sensing of Environment* 55 (2), 95–107.
- Roujean, J. L., Breon, F. M., 1995. Estimating par absorbed by vegetation from bidirectional reflectance measurements. *Remote Sensing of Environment* 51 (3), 375–384.
- Serrano, L., Peñuelas, J., Ustin, S. L., 2002. Remote sensing of nitrogen and lignin in mediterranean vegetation from AVIRIS data: Decomposing biochemical from structural signals. *Remote Sensing of Environment* 81, 355 – 364.
- Sims, D., Gamon, J., 2002. Relationships between leaf pigment content and spectral reflectance across a wide range of species, leaf structures and developmental stages. *Remote Sensing of Environment* 81 (2), 337–354.
- Smith, R., Adams, J., Stephens, D., Hick, P., 1995. Forecasting wheat yield in a mediterranean-type environment from the NOAA satellite. *Australian Journal of Agricultural Research* 46 (1), 113–125.

- Sohn, Y. S., McCoy, R. M., 1997. Mapping desert shrub rangeland using spectral unmixing and modeling spectral mixtures with TM data. *Photogrammetric Engineering and Remote Sensing* 63 (6), 707–716.
- Thenkabail, P. S., Smith, R. B., Pauw, E. D., 2000. Hyperspectral vegetation indices and their relationships with agricultural crop characteristics. *Remote Sensing of Environment* 71 (2), 158 – 182.
- Tsai, F., Philpot, W., 1998. Derivative analysis of hyperspectral data. *Remote Sensing of Environment* 66 (1), 41–51.
- Tucker, C. J., 1979. Red and photographic infrared linear combinations for monitoring vegetation. *Remote Sensing of Environment* 8 (2), 127–150.
- Vincini, M., Frazzi, E., D’Alessio, P., 2006. Angular dependence of maize and sugar beet VIs from directional CHRIS/PROBA data. In: Fourth ESA CHRIS PROBA Workshop. ESRIN. Frascati, Italy, pp. 19–21.
- Vogelmann, J. E., Rock, B. N., Moss, D. M., 1993. Red edge spectral measurements from sugar maple leaves. *International Journal of Remote Sensing* 14 (8), 1563–1575.
- Whiting, M. L., Li, L., Ustin, S. L., Feb. 2004. Predicting water content using Gaussian model on soil spectra. *Remote Sensing of Environment* 89 (4), 535–552.
- Wu, C., Niu, Z., Tang, Q., Huang, W., 2008. Estimating chlorophyll content from hyperspectral vegetation indices: Modeling and validation. *Agricultural and Forest Meteorology* 148 (8-9), 1230 – 1241.
- Wu, W., 2014. The generalized difference vegetation index (GDVI) for dryland characterization. *Remote Sensing* 6 (2), 1211–1233.
- Zarco-Tejada, P. J., Gonzalez-Dugo, V., Williams, L. E., Suarez, L., Berni, J. A. J., Goldhamer, D., Fereres, E., 2013. A PRI-based water stress index combining structural and chlorophyll effects: Assessment using diurnal narrow-band airborne imagery and the CWSI thermal index. *Remote Sensing of Environment* 138, 38–50.
- Zarco-Tejada, P. J., Miller, J. R., 1999. Land cover mapping at BOREAS using red edge spectral parameters from CASI imagery. *Journal of Geophysical Research-atmospheres* 104 (D22), 27921–27933.
- Zarco-Tejada, P. J., Pushnik, J. C., Dobrowski, S., Ustin, S. L., 2003. Steady-state chlorophyll a fluorescence detection from canopy derivative reflectance and double-peak red-edge effects. *Remote Sensing of Environment* 84 (2), 283–294.