Physics > Medical Physics

Characteristic spectral features of the polarized fluorescence of human breast cancer in the wavelet domain

Anita H. Gharekhan, Nrusingh C. Biswal, Sharad Gupta, Prasanta K. Panigrahi, Asima Pradhan

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Wavelet transform of polarized fluorescence spectra of human breast tissues is found to localize spectral features that can reliably differentiate normal and malignant tissue types. The intensity differences of parallel and perpendicularly polarized fluorescence spectra are subjected to investigation, since the same is relatively free of the diffusive background. A number of parameters, capturing spectral variations and subtle changes in the diseased tissues in the visible wavelength regime, are clearly identifiable in the wavelet domain. These manifest both in the average low pass and high frequency high pass wavelet coefficients.

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