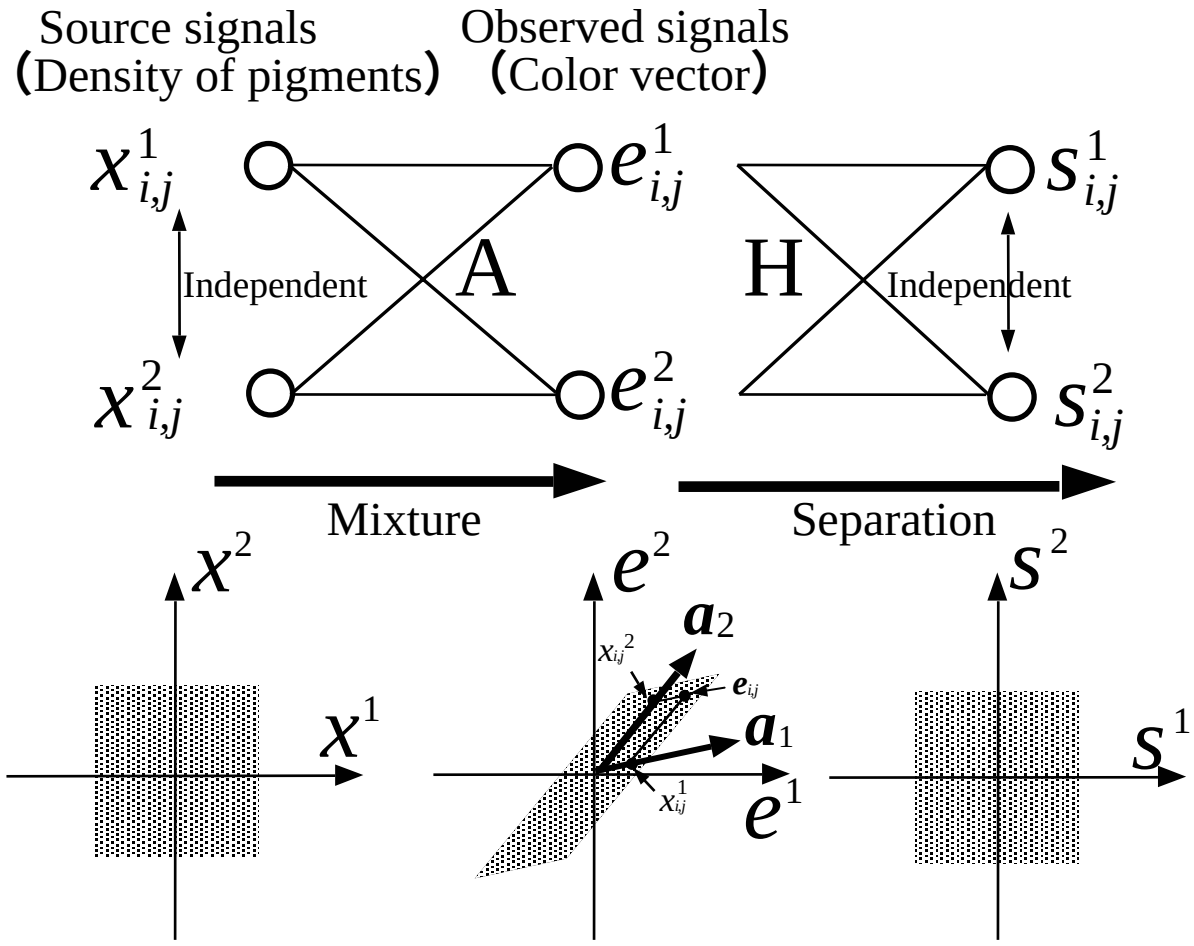


Figure 1 Mixture and separation of independent signals

津村徳道

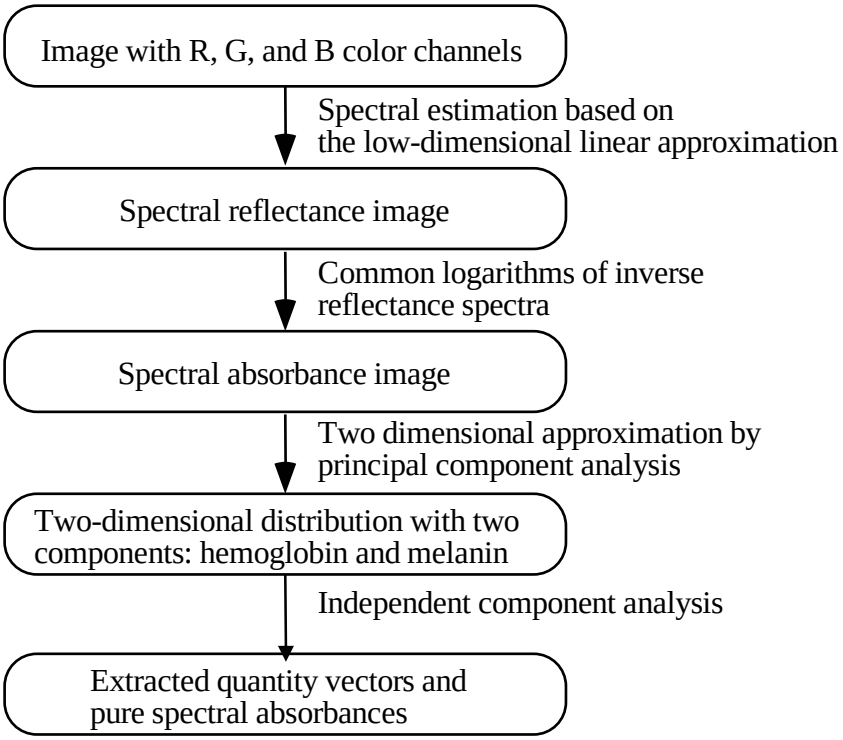
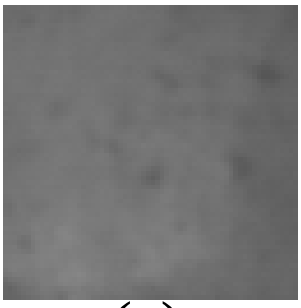
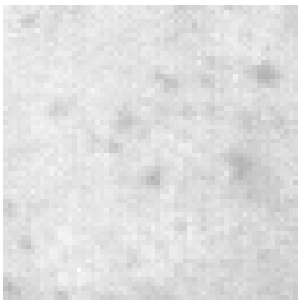


Figure 2　Flowchart for the analysis of the human skin image.

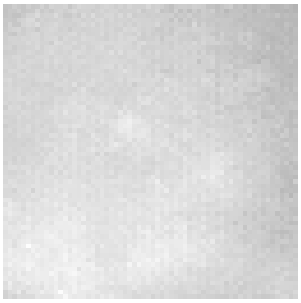
津村徳道



(a)



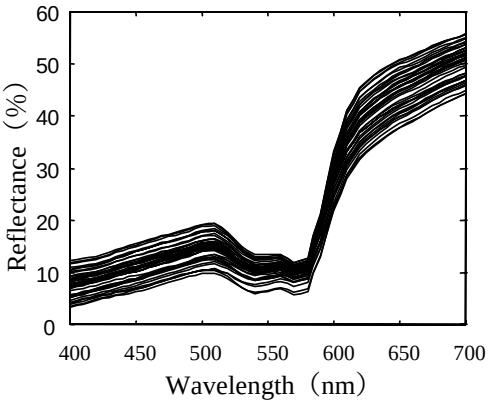
(b)



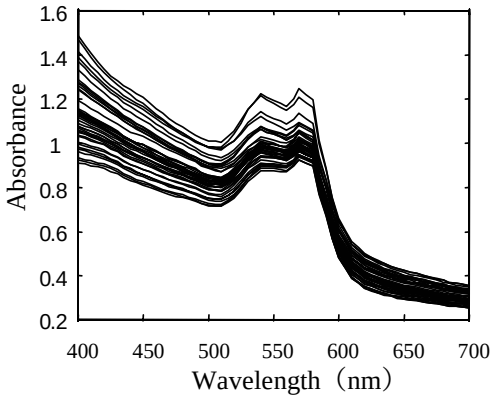
(c)

Figure 3 Separation of skin image (a)skin color image with 64 x 64 pixels, images of color densities for the (b) first and (c) second independent components.

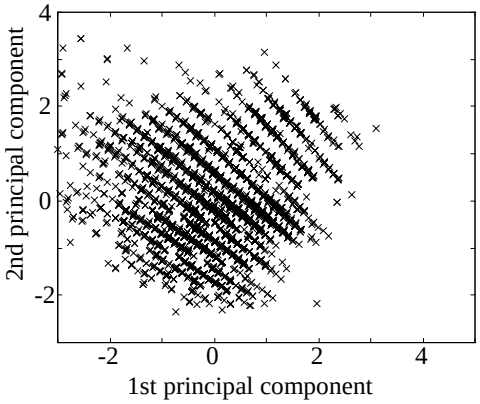
津村徳道



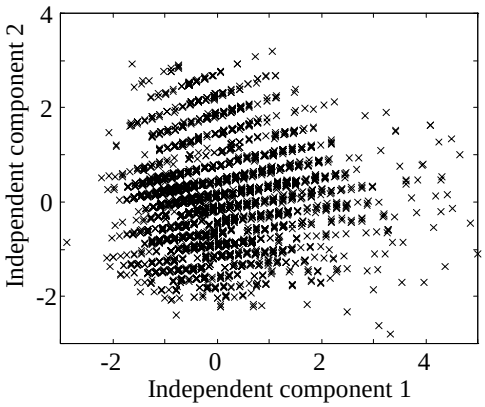
(a) Estimated skin spectral reflectance



(b) Estimated skin spectral absorbance



(c) Principal components



(d) Independent components

Figure 4 The obtained data in independent component analysis of spectral image in human skin

津村徳道

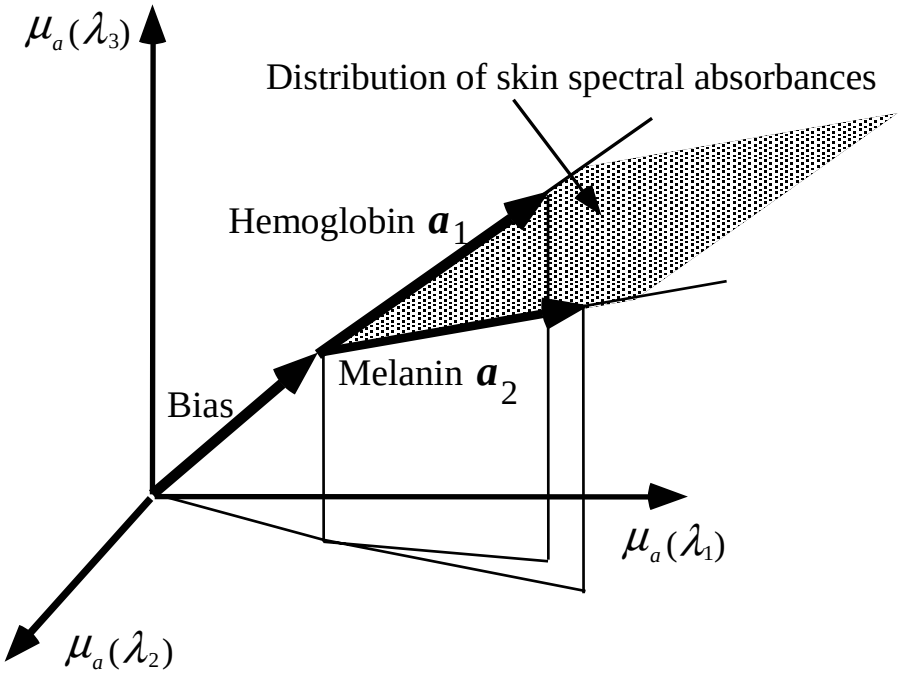


Figure 5　Model of spectral absorbance in human skin.

津村徳道

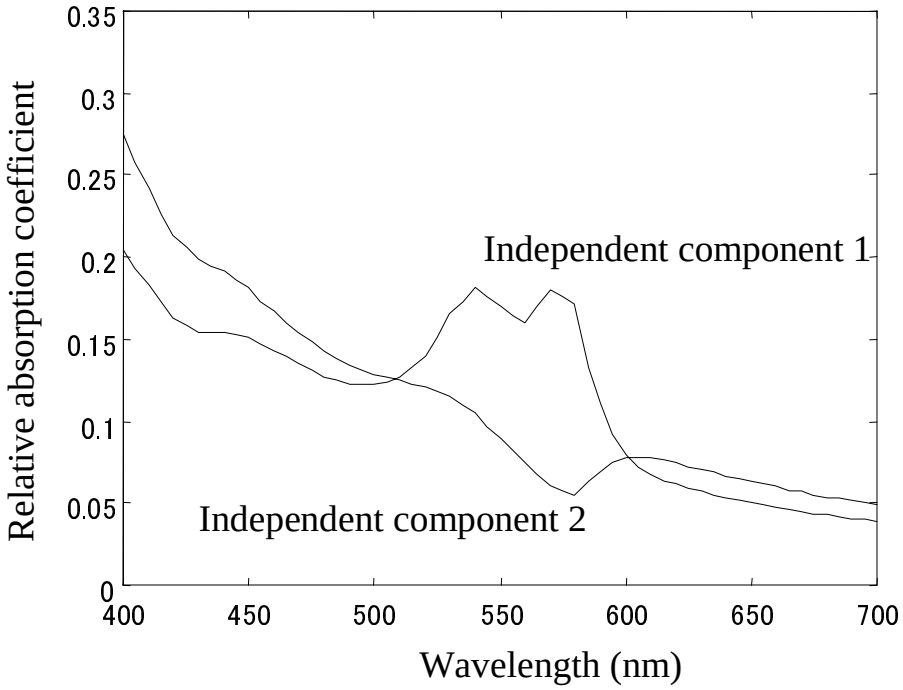


Figure 6 Relative spectral absorption coefficient extracted by independent component analysis of skin image

津村徳道

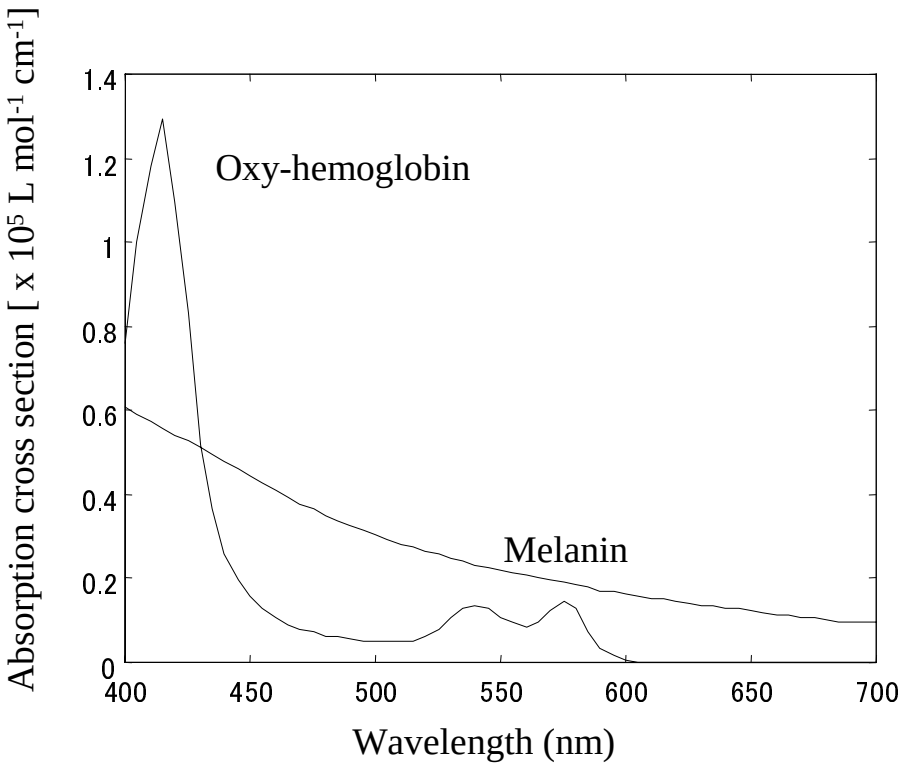


Figure 7 Spectral absorbance of oxy-hemoglobin and melanin[17)]

津村徳道

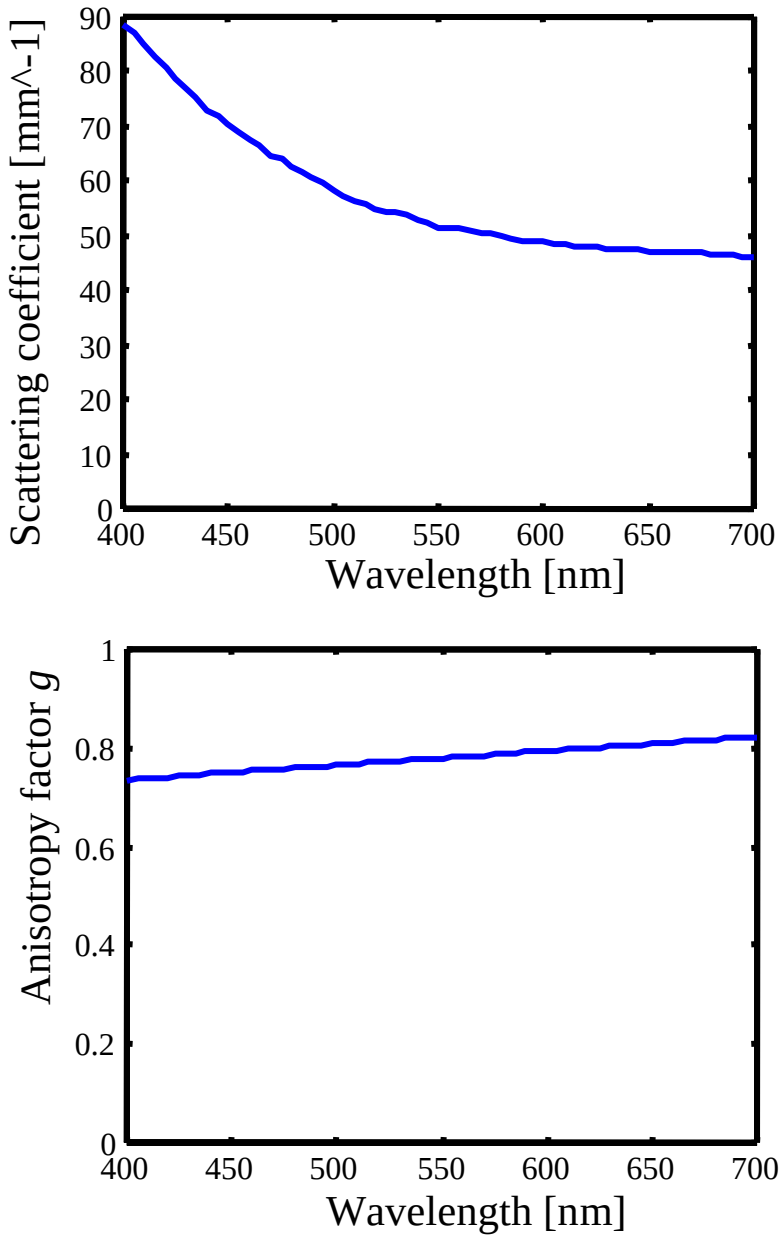


Figure 8 Scattering coefficient and anisotropy factor in epidermis and dermis layer[16)]

津村徳道

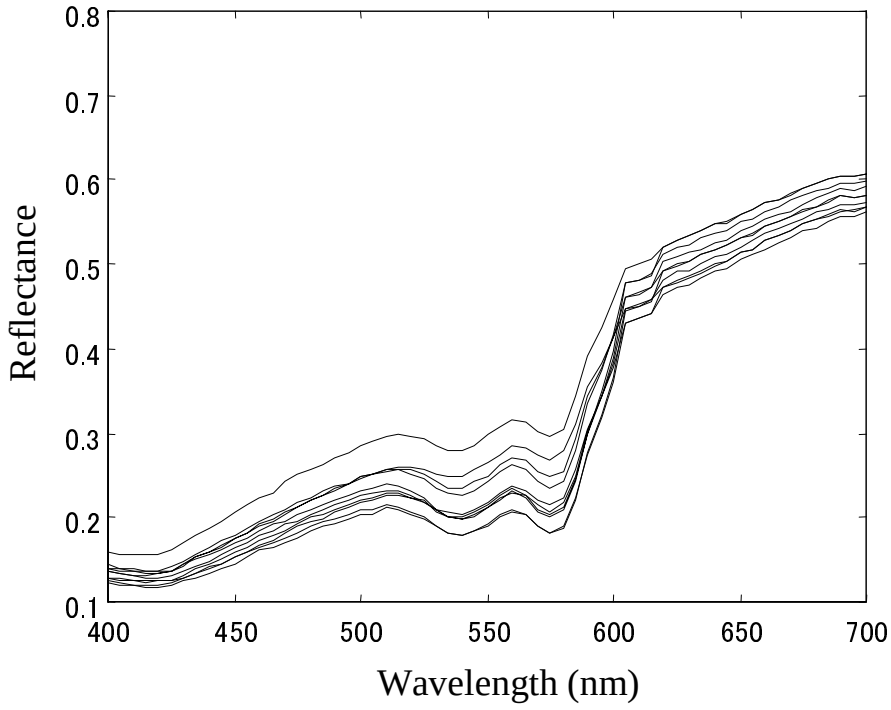


Figure 9 Examples of simulated skin spectral reflectance

津村徳道

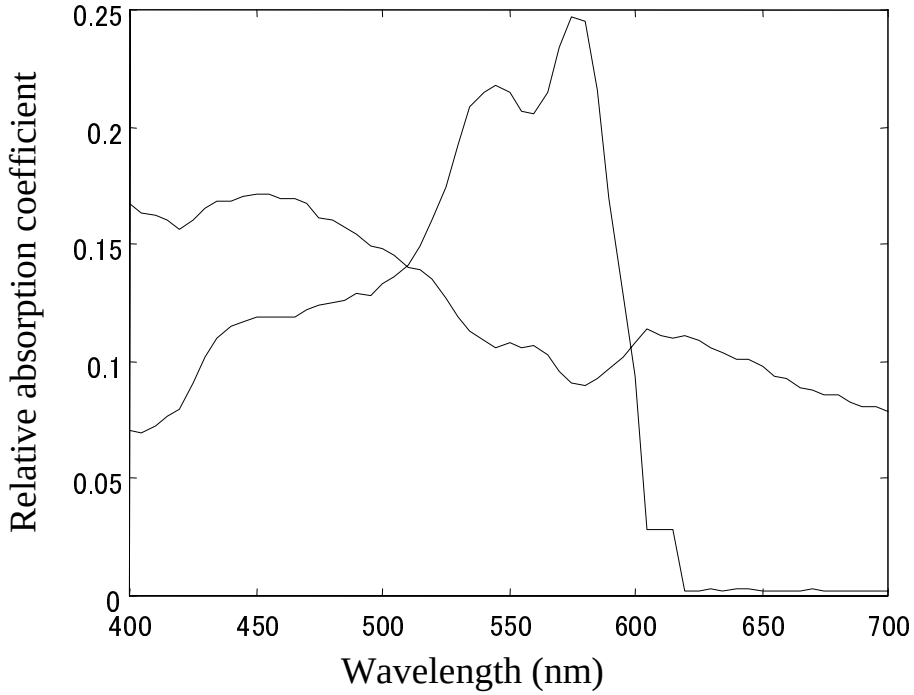


Figure 10 Relative spectral absorption coefficient extracted by independent component analysis of simulated skin spectral reflectance

津村徳道

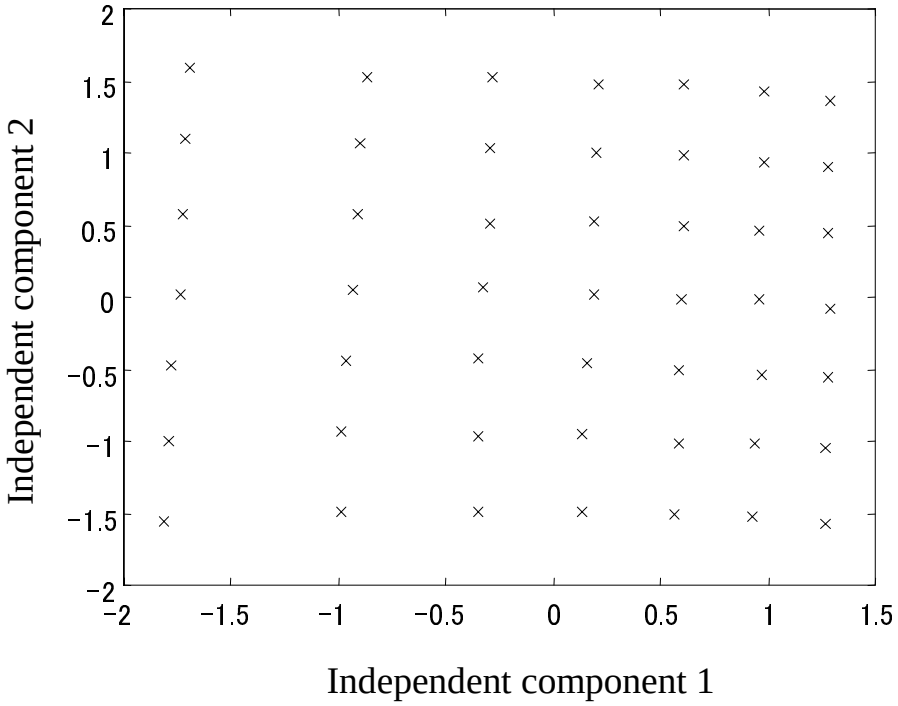


Figure 11 Extracted densities of independent components

津村徳道

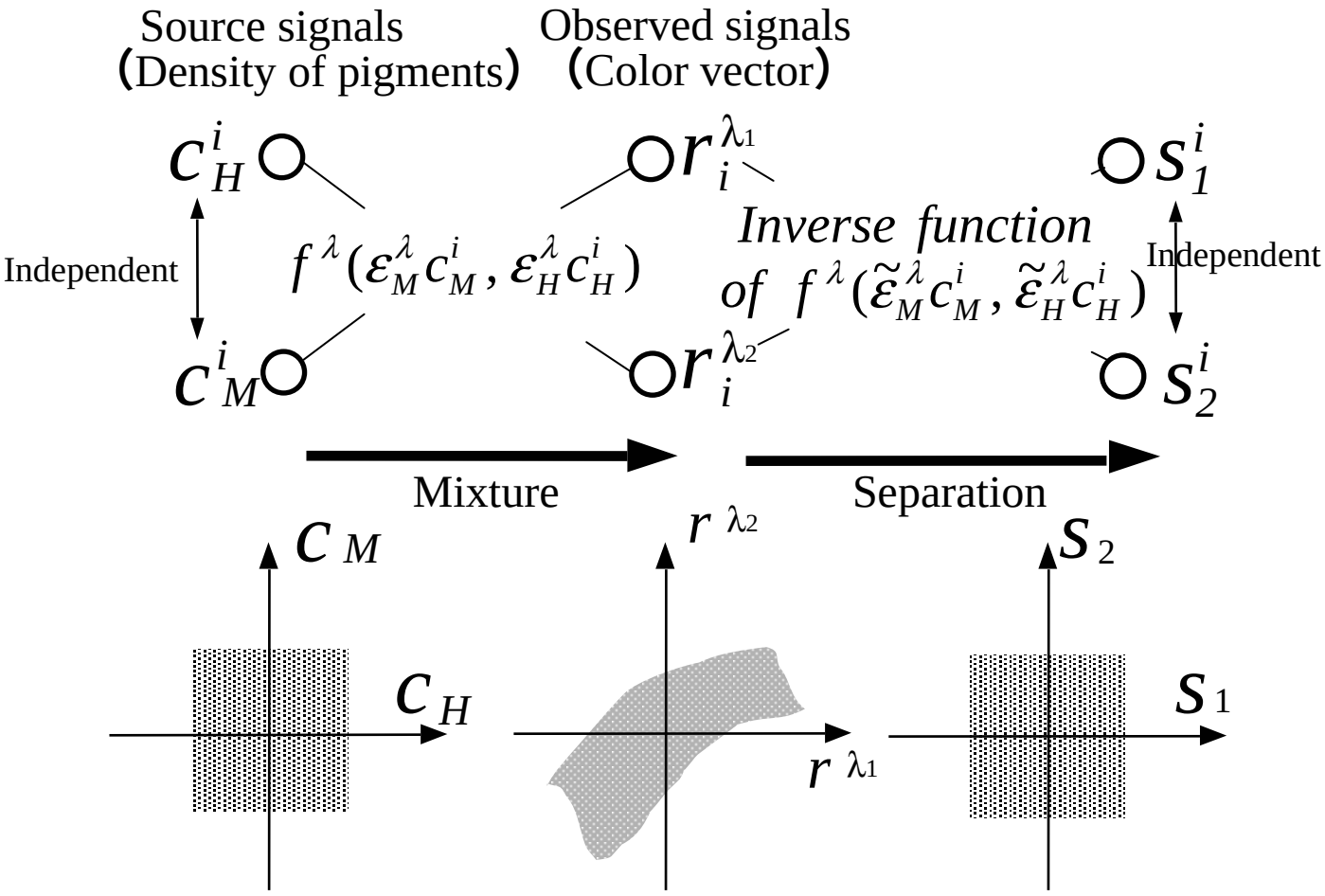


Figure 12 Mixture and separation of independent signals with known nonlinear function

津村徳道

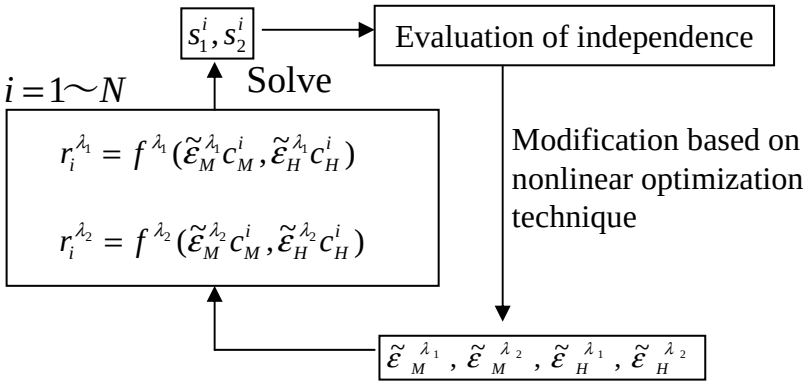


Figure 13 Iterative method for extraction of independent component from non-linear mixture

津村徳道

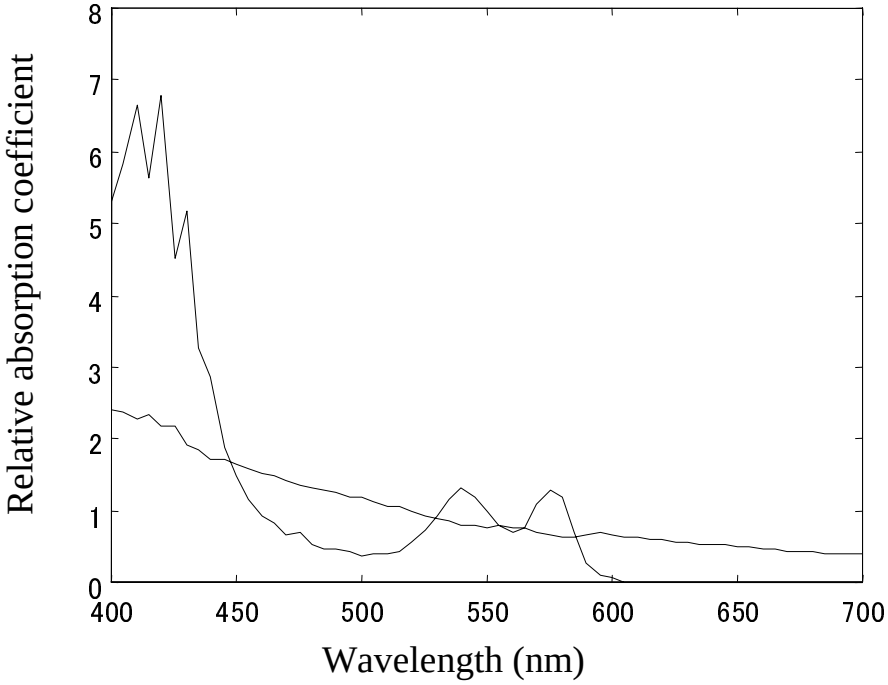


Figure 14 Relative spectral absorption coefficient extracted by proposed independent component analysis of simulated skin spectral reflectance

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