THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A method of carrying out automated ATR spectral analysis comprising acquiring a spatial image of a sample and processing the image, wherein the processing steps comprise differentiating the acquired image in the spectral domain, restricting the spectral range of the image, subtracting an average absorbance from the restricted image data, and applying a principal components analysis to extract the most significant spectral features, and by the further step of displaying, to the user, a spatial image showing the most significant spectral features of the sample.

2. A method according to claim 1 including colour compositing the extracted components for display to a user.

3. An imaging ATR system comprising an imaging microscope and image processing means, the system being arranged for carrying out automated ATR spectral analysis comprising acquiring an image of a sample and processing the image, and comprising an interface for displaying processed images to the user, wherein the system is arranged to carry out processing steps comprising differentiating the acquired image in the spectral domain, restricting the spectral range of the image, subtracting an average absorbance from the restricted image data, and applying a principal components analysis to extract the most significant spectral features and by the system being arranged for displaying via the interface, a spatial image showing the most significant spectral features of an imaged sample.

4. An imaging ATR system according to claim 3 which is arranged for colour compositing the extracted components for display to a user.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A method of carrying out automated ATR spectral analysis comprising acquiring a spatial image of a sample and processing the image, wherein the processing steps comprise differentiating the acquired image in the spectral domain, restricting the spectral range of the image, subtracting an average absorbance from the restricted image data, and applying a principal components analysis to extract the most significant spectral features, and by the further step of displaying, to the user, a spatial image showing the most significant spectral features of the sample.

2. A method according to claim 1 including colour compositing the extracted components for display to a user.

3. A method according to claim 1 or claim 2, wherein the differentiation step includes smoothing the acquired image to reduce noise.

4. An imaging ATR system comprising an imaging microscope and image processing means, the system being arranged for carrying out automated ATR spectral analysis comprising acquiring an image of a sample and processing the image, and comprising an interface for displaying processed images to the user, wherein the system is arranged to carry out processing steps comprising differentiating the acquired image in the spectral domain, restricting the spectral range of the image, subtracting an average absorbance from the restricted image data, and applying a principal components analysis to extract the most significant spectral features and by the system being arranged for displaying via the interface, a spatial image showing the most significant spectral features of an imaged sample.

5. An imaging ATR system according to claim 4 which is arranged for colour compositing the extracted components for display to a user.

6. An imaging ATR system according to claim 4 or claim 5 wherein the differentiation step includes smoothing the acquired image to reduce noise.