CLAIMS

1. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of detecting an organ from the acquired frame images;

processing of performing Fourier transform for a change in each of the frame images;

processing of selecting at least one frequency when performing inverse Fourier transform, or multiplying a specific spectrum by a coefficient and weighting it, based on a spectrum composition ratio in an organ-specific cyclic change, out of spectrums obtained after the Fourier transform;

processing of extracting spectrums in a fixed band including spectrums corresponding to the selected frequency; and

processing of performing inverse Fourier transform for spectrums extracted from the fixed band.

2. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of specifying at least one frequency of a respiratory element including all or part of expired air or

inspired air based on pixels in a specific area in each of the frame images;

processing of detecting a lung field from the acquired frame images;

processing of dividing the detected lung field into block areas and calculating a change in image in a block area in each of the frame images;

processing of performing Fourier transform for a change in image in each block area in each of the frame images;

processing of extracting spectrums in a fixed band including spectrums corresponding to at least one frequency of the respiratory element, or multiplying a specific spectrum by a coefficient and weighting it, out of spectrums obtained after the Fourier transform; and

processing of performing inverse Fourier transform for spectrums extracted from the fixed band.

3. The diagnostic support program according to claim 2, further comprising processing of extracting spectrums in a fixed band that includes a frequency of noise and includes spectrums corresponding to a frequency other than the frequency of the respiratory element obtained from the frame images, or an input frequency or a frequency band, out of spectrums obtained after the Fourier transform, by using a

filter.

4. The diagnostic support program according to claim 2, further comprising processing of generating an image among the frames based on the frequency of the respiratory element and each of the frame images.

5. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of specifying at least one frequency of a cardiovascular beat element extracted from a heartbeat or a blood vessel beat of a subject;

processing of specifying at least one frequency of a respiratory element including all or part of expired air or inspired air based on pixels in a specific area in each of the frame images;

processing of detecting a lung field from the acquired frame images;

processing of dividing the detected lung field into block areas and calculating a change in image in a block area in each of the frame images;

processing of performing Fourier transform for a change in image in each block area in each of the frame images;

processing of extracting spectrums in a fixed band including spectrums corresponding to at least one frequency of the cardiovascular beat element, or multiplying a specific spectrum by a coefficient and weighting it, out of spectrums obtained after the Fourier transform; and

processing of performing inverse Fourier transform for spectrums extracted from the fixed band.

6. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of specifying at least one frequency of a cardiovascular beat element extracted from a heartbeat or a blood vessel beat of a subject;

processing of detecting a lung field from the acquired frame images;

processing of dividing the detected lung field into block areas and calculating a change in image in a block area in each of the frame images;

processing of performing Fourier transform for a change in image in each block area in each of the frame images;

processing of extracting spectrums in a fixed band including spectrums corresponding to at least one frequency of the cardiovascular beat element, or multiplying a specific

spectrum by a coefficient and weighting it, out of spectrums obtained after the Fourier transform; and

processing of performing inverse Fourier transform for spectrums extracted from the fixed band.

7. The diagnostic support program according to claim 5, further comprising processing of extracting spectrums in a fixed band that includes a frequency of noise and includes spectrums corresponding to a frequency other than the frequency of the cardiovascular beat element obtained from the frame images, or an input frequency or a frequency band, out of spectrums obtained after the Fourier transform, by using a filter.

8. The diagnostic support program according to claim 5, further comprising processing of generating an image among the frames based on the frequency of the specified cardiovascular beat element and each of the frame images.

9. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of specifying at least one frequency of a blood vessel beat element extracted from a blood vessel beat of a subject;

processing of dividing an analysis range that is set for each of the frame images into block areas and calculating a change in image in a block area in each of the frame images;

processing of performing Fourier transform for a change in image in each block area in each of the frame images;

processing of extracting spectrums in a fixed band including spectrums corresponding to at least one frequency of the blood vessel beat element, or multiplying a specific spectrum by a coefficient and weighting it, out of spectrums obtained after the Fourier transform; and

processing of performing inverse Fourier transform for spectrums extracted from the fixed band.

10. The diagnostic support program according to claim 9, further comprising processing of extracting spectrums in a fixed band that includes a frequency of noise and includes spectrums corresponding to a frequency other than the frequency of the blood vessel beat element obtained from the frame images, or an input frequency or a frequency band, out of spectrums obtained after the Fourier transform, by using a filter.

11. The diagnostic support program according to claim 9,

further comprising processing of generating an image among the frames based on the frequency of the specified cardiovascular beat element and each of the frame images.

12. The diagnostic support program according to claim 2, comprising:

processing of calculating a pixel change rate in the block area in each of the frame images; and

processing of extracting only block areas for which a tunable rate is within a predetermined fixed range, using the tunable rate that is a value of a ratio of a pixel change rate in the block areas to a change rate of a dynamic region linked with respiration.

13. The diagnostic support program according to claim 12, further comprising processing of specifying at least one frequency of a cardiovascular beat element extracted from a heartbeat or a blood vessel beat of a subject, or at least one frequency of a blood vessel beat element extracted from the blood vessel beat.

14. The diagnostic support program according to claim 12, wherein

logarithmic values of the tunable rate are determined as a fixed range including 0.

15. A diagnostic support program that analyzes images of a human body and displays analysis results, comprising:

processing of acquiring frame images;

processing of detecting an organ from the acquired frame images;

processing of dividing the detected organ into block areas in a state of keeping a relative positional relationship between frame images;

processing of drawing at least a lung field, blood vessels or a heart, by using at least one Bézier curve;

a diaphragm is detected by calculating an intensity difference for continuous each image, and an index indicating a position or a shape of a dynamic region linked with the detected diaphragm or respiration is displayed; and the diaphragm that is not interrupted by regions other than the diaphragm is displayed by changing a threshold of an intensity to interpolate a whole shape of the diaphragm.

16. The diagnostic support program according to claim 15, further comprising processing of calculating at least one frequency of the respiratory element from the position or the shape of the detected diaphragm, or the position or the shape of the dynamic region linked with the respiration.

17. The diagnostic support program according to claim 2, wherein

a respiratory element is corrected by changing a phase of at least one frequency of the respiratory element, or by smoothing a waveform of a respiratory element.

18. The diagnostic support program according to claim 2, wherein

only a block where an amplitude value is relatively large is extracted and displayed, after the inverse Fourier transform.