

## CLAIMS

1. A diagnosis support program that analyzes images of a human body and displays analysis results, the program causing a computer to execute:

processing of acquiring a plurality of frame images from a database that stores the images;

processing of selecting a specific area from each of the frame images and specifying a respiratory cycle based on pixels in the selected specific area;

processing of detecting a lung field based on the specified respiratory cycle;

processing of dividing the detected lung field into a plurality of block areas and calculating a change in image in each of the block areas based on a relative position between each of the block areas and a lung contour;

processing of Fourier-transforming a change in image in each block area in each of the frame images;

processing of performing inverse Fourier transform by extracting frequency components corresponding to the respiratory cycle for Fourier transform results of a change in image in each of the block areas; and

processing of displaying each image after the Fourier analysis on a display.

2. A diagnosis support program that analyzes images of a human body and displays analysis results, the program causing a computer to execute:

processing of acquiring a plurality of frame images from a database that stores the images;

processing of specifying a blood vessel beat cycle of a subject;

processing of specifying a respiratory cycle based on pixels in a specific area in each of the frame images;

processing of detecting a lung field based on the specified respiratory cycle;

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

processing of Fourier-transforming a change in image in each block area in

each of the frame images;

processing of performing inverse Fourier transform by extracting frequency components corresponding to the blood vessel beat cycle for Fourier transform results of a change in image in each of the block areas; and

processing of displaying each image after the Fourier analysis on a display.

3. A diagnosis support program that analyzes images of a human body and displays analysis results, the program causing a computer to execute:

processing of acquiring a plurality of frame images from a database that stores the images;

processing of selecting a specific area from each of the frame images and specifying a blood vessel beat cycle of a subject based on pixels in the selected specific area;

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

processing of Fourier-transforming a change in image in each block area in each of the frame images;

processing of performing inverse Fourier transform by extracting frequency components corresponding to the blood vessel beat cycle for Fourier transform results of a change in image in each of the block areas; and

processing of displaying each image after the Fourier analysis on a display.

4. The diagnosis support program according to claim 1 or 2, wherein

a respiratory cycle of a subject is specified based on a movement of a diaphragm, a movement of a thorax, or data of a spirogram.

5. The diagnosis support program according to claim 2 or 3, wherein

a blood vessel beat cycle of the subject is specified based on measurement results by other modality devices including an electrocardiogram or a pulsimeter,

and alternatively, a movement of a diaphragm and a thorax is extracted and a respiratory cycle of a subject is specified based on an image of a diaphragm and an image of a thorax at least included in each of the frame images, a lung field is detected based on the specified respiratory cycle, a position of a heart, a position of a hilum pulmonis, and blood vessel cycles of a main lung blood vessel and a large blood vessel are specified from the detected lung field, and a blood vessel beat cycle is specified based on a change in image of each specified region.

6. The diagnosis support program according to claim 1 or 2, wherein  
a relative position relationship between an inside of a lung field and blood vessels is calculated based on the specified respiratory cycle, and a shape of a lung of a subject is specified as a standard lung and a dynamic state of a blood flow of the subject is specified as a standard blood vessel area.

7. The diagnosis support program according to any of claims 1 to 3, wherein  
a lung field is divided into a plurality of block areas by plotting a plurality of points in accordance with a fixed rule on opposing contours of a lung field and by connecting opposing points by a segment.