


<b>Automatic Extraction of a Selected Area from an Image</b>		
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### Research Topics

- Selection and extraction of a lung field area from a lung X-ray CT image used for physical checkups
- Detection of very small areas on an image

### Research Seeds

- Detection of a very small area on an image

We also are investigating a method of locating a diseased area of interest automatically on images obtained from a diagnostic supporting system that is used for the lung cancer examinations made based on chest X-ray CT images. The method we use currently uses a Quoit filter. The method drops two filters (a disk and a ring) from the top of the hill shown on the three-dimensional image (bird's-eye view representation) on which the density values are aligned toward its height direction on the two-dimensional image, as presented in Fig. 1(b). Then the dropped disk would stop at the top of the hill, but the ring would fall down to the foot of the hill (Fig. 1(c)). With the height difference thus shown by the two filters and using it as an output value, we can automatically detect an area (a very small area) that is smaller than the filter size and isolated on the image picture having a high density value there at that position.

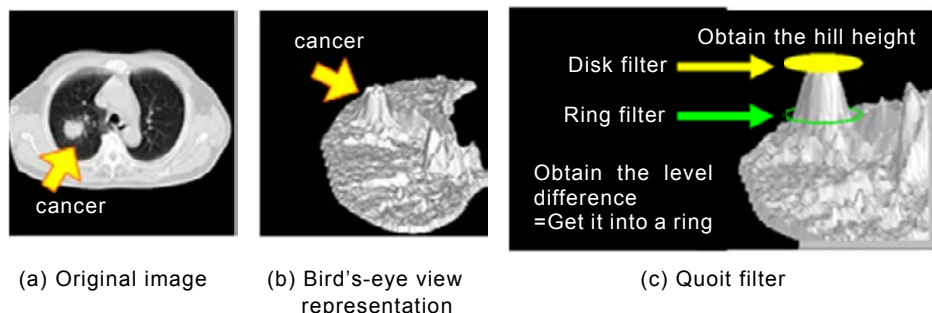


Fig. 1 Automatic detection of a lung cancer focus area

### Related Technology

- Imaging analysis and automatic area selection and extraction on the image
- Detection of tiny isolated area of an image