

Abstract: Human voice diagnosis is a complicated problem, even nowadays. The reason is poor access to the body itself and the high frequencies of vocal fold vibrations. One of the clinically available imaging methods to address these problems is Videokymography – a technology for capturing the vocal fold vibrations using a special line CCD camera. Individual lines stacked on top of each other form videokymographic recording. Videokymographic images are suitable for automatic characteristics extraction, therefore helping to reduce the laryngologist workload. For this purpose, the set of such methods is being developed in the Department of Image Processing in the Institute of Information Theory and Automation of the Academy of Science of Czech Republic. The ventricular band position and shape determination is one of the important, but difficult, tasks. The aim of this thesis is to propose new method of automatic detection of ventricular band on videokymographic recording using digital image processing techniques.