

## **Inverse Problems for Wave Equation and Imaging**

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In this talk, the problem of reconstruction of sound speed and attenuation in the wave equation will be discussed. In an overdetermined statement, the speaker uses some versions of the boundary control method for solving this problem. The solution is reduced to the precision of moments.

Another problem to be discussed in this talk is the imaging in ultrasound medicine tomography. An example of the acoustical model would be the fat and granular tissues with known velocities and several unknown small and weak inclusions. The speaker and his group use a method based on the reverse time migration to first determine the unknown boundary between fat and boundary tissues and then the image of inclusions.