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**Title:** Inverse problems for the wave equation in an annulus

**Abstract:** Let  $u(x, t, \xi)$  denote the solution of

$$u_{tt} - \Delta u - q(x)u = \delta(x - \xi, t) \quad x \in \mathbb{R}^N \quad t > 0$$

$$u(x, 0, \xi) = u_t(x, 0, \xi) = 0 \quad x \in \mathbb{R}^3$$

A very general class of inverse problems is to recover the coefficient  $q(x)$  from measurement of  $u(x, t, \xi)$  on some appropriate measurement set  $\Sigma \subset \mathbb{R}^{2N+1}$ . I will review some of the history of problems of this type and then discuss some recent work for the case that the coefficient is to be determined in an annulus  $A$  and measurements are made on either the outer or inner surface of  $A$ .