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**Inverse spectral problems for the generalized Robin-Regge problem with complex coefficients. (English summary)**

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In this work, the generalized Robin-Regge problem $L(q,h,\alpha,\beta)$ is considered:

$$\begin{aligned} -y''(x)+q(x)y(x)&=\lambda^2 y(x), \quad 0<x<a,\\ y'(0)-hy(0)&=0,\\ y'(a)+(i\lambda\alpha+\beta)y(a)&=0. \end{aligned}$$

Here, $\lambda$ is a spectral parameter, $q\in L^2(0,1)$ is a complex-valued potential, $h,\beta\in\mathbb{C}$, and $\alpha>0$.

For $\alpha>0$, a uniqueness theorem for the solution of the inverse spectral problem using all of the eigenvalues as the input data is proved. For $\alpha\neq 1$, it is proved that when $\beta$ is known a priori, then any eigenvalue can be missing while still guaranteeing the unique determination of $q$, $\alpha$, and $h$. The corresponding reconstruction algorithms are also provided. Furthermore, for the inverse problem with $\alpha\neq 1$ and known $\beta$ the local solvability and stability are discussed. *F. Ayca Cetinkaya*

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