Reconstruction of the Potential Function and its Derivatives for the Diffusion Operator

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We solve the inverse nodal problem for the diffusion operator. In particular, we obtain a reconstruction of the potential function and its derivatives using only nodal data. Results are a generalization of Law's and Yang's works.

Key words: Diffusion Operator; Inverse Nodal Problem; Reconstruction Formula. *MSC* 2000: 34L40, 34A55, 34B99