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MULTIGRID CONFORMAL MAPPING VIA THE SZEGŐ KERNEL*

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Abstract. We introduce a multilevel scheme to solve a second kind integral equation which is important in computing conformal maps. This scheme outperforms conjugate gradient methods previously employed for smooth regions. An analysis of the two-grid scheme is provided.

Key words. conformal mapping, multigrid, Szegő kernel, integral equations.

AMS subject classifications. 45L10, 45B05, 65R20, 65F20, 65F10.

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