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The Dirichlet-to-Neumann operator on $C(\partial\Omega)$

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Abstract. Let $\Omega \subset \mathbb{R}^d$ be an open bounded set with Lipschitz boundary Γ. Let D_V be the Dirichlet-to-Neumann operator with respect to a purely second-order symmetric divergence form operator with real Lipschitz continuous coefficients and a positive potential V. We show that the semigroup generated by $-D_V$ leaves $C(\Gamma)$ invariant and that the restriction of this semigroup to $C(\Gamma)$ is a C_0-semigroup. We investigate positivity and spectral properties of this semigroup. We also present results where V is allowed to be negative. Of independent interest is a new criterium for semigroups to have a continuous kernel.

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