

Strong coupling asymptotics for Schrödinger operators with delta-potential

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Let Σ be a bounded plain surface in \mathbb{R}^3 . Denote by A_β the Schrödinger operator in $L^2(\mathbb{R}^3)$ with a δ -potential of strength β supported on Σ , i.e. the operator associated to the formal differential expression $-\Delta - \beta\delta_\Sigma$. Denote by $\Lambda_j(\beta)$ the j th negative eigenvalue of A_β . We will investigate the asymptotic behaviour of $\Lambda_j(\beta)$ for $\beta \rightarrow \infty$.

The talk is based on a joint work with Jaroslav Dittrich and Pavel Exner.