Critical points of Green's functions

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Let D a bounded and multiply connected domain, of connectivity p. The Green's function of D of pole w has p critical points $z_i(w), 1 \leq i \leq p$. The main result is that there is a compact set $K \subset D$, independent of w and containing all these critical points: The critical points will never see the boundary ∂D of D.

We will discuss in detail the case of a doubly connected domain. We also discuss some possible developments: Cartan geometry, Casimir effect.

The main result is a joint work with Björn Gustafsson(KTH, Stockholm).