

*On a long-standing conjecture by Pólya-Szegő  
and related topics*

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**Abstract.** The electrostatic capacity of a convex body is usually not simple to compute. We discuss two possible approximations of it. The first one is related to a long-standing conjecture by Pólya-Szegő. It states that, among all convex bodies, the “worst shape” for the approximation exists and is the planar disk. We prove the first part of this conjecture, and we establish some related results which give further evidence for the validity of the second part. We also suggest some complementary conjectures and open problems. The second approximation we study is based on the use of web functions.