962-31-1137   **David Drasin*** (`drasin@math.purdue.edu`), Mathematics Dept., Purdue Univ., W. Lafayette, IN 47907, and **Pietro Poggi-Corradini** (`pietro@math.ksu.edu`) and **Vladamir Azarin** (`azarin@macs.biu.ac.il`). *Potential theory of T-automorphic domains and entire functions of completely regular growth.*

The classical Levin-Pfluger theory of entire functions of completely regular growth studies subharmonic functions of the form $u(z) = r^\rho h(\theta)$, and thus depends on the theory of trigonometrically convex (periodic) functions. These functions satisfy $(A)u(tz) = t^r h o u(z)$ for all $t > 0$. If we assume that (A) holds only for $t = T^n$ for some fixed $T > 1$, a different potential theory arises, leading to a non-self-adjoint second-order operator on the torus. We discuss the potential theory for this operator, and show that it shares many key properties that occur in the classical theory. In particular, the spectrum consists of a sequence of eigenvalues,and the first eigenvalue is positive and simple. (Received October 02, 2000)