1116-30-780 **David Alan Cardon*** (cardon@math.byu.edu), Department of Mathematics, Brigham Young University, Provo, UT 84602. *Complex zero strip decreasing operators.*

Let $\phi(z)$ be a function in the Laguerre-Pólya class. Write $\phi(z) = e^{-\alpha z^2}\phi_1(z)$ where $\alpha \geq 0$ and where $\phi_1(z)$ is a real entire function of genus 0 or 1. Let $f(z)$ be any real entire function of the form $f(z) = e^{-\gamma z^2} f_1(z)$ such that $\gamma \geq 0$ and $f_1(z)$ is a real entire function of genus 0 or 1 having all of its zeros in the strip $S(r) = \{z \in \mathbb{C}\colon -r \leq \operatorname{Im} z \leq r\}$ for $r > 0$. If $\alpha\gamma < 1/4$, the linear differential operator $\phi(D)f(z)$, where D denotes differentiation, converges to a real entire function whose zeros also belong the strip $S(r)$. We discuss necessary and sufficient conditions on $\phi(z)$ such that all zeros of $\phi(D)f(z)$ belong to a smaller strip $S(r_1) = \{z \in \mathbb{C}\colon -r_1 \leq \operatorname{Im} z \leq r_1\}$ where $0 \leq r_1 < r$ and r_1 depends on $\phi(z)$ but is independent of $f(z)$. A linear operator having this property is called a *complex zero strip decreasing operator*. (Received September 12, 2015)