

**ONE-TO-ONE CONTINUOUS EXTENSIONS
OF ANALYTIC FUNCTIONS**

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Let U be the open unit disc in the complex plane. Let $H(U)$ stand for the space of functions analytic on U . Let

$$A = \{g \in H(U) : g'(0) \neq 0\} .$$

For $g \in A$,

$$g(z) = \sum_{n=0}^{\infty} a_n z^n ,$$

following the lead of Walter Rudin (see [1] problem E3325 p.445),

we say g has the property P_t if

$$\sum_{n=2}^{\infty} |a_n| n \leq t .$$

In this short note we prove the following result which is an extension of the problem E3325 of [1].

Theorem: Let $g \in A$ have the property P_t for some $t > 0$. Then g is one-to-one and admits a one-to-one continuous extension to the closed unit disc if $t \leq |g'(0)|$. First we prove a lemma.