

1017-30-6

**Flavia Colonna\*** (fcolonna@gmu.edu), Flavia Colonna, Dept. Of Mathematical Sciences, George Mason, 4400 University Drive, Fairfax, VA 22030. *Characterization of the isometric composition operators on the Bloch space.*

In this paper, we characterize the analytic functions  $\varphi$  mapping the open unit disk  $\Delta$  into itself whose induced composition operator  $C_\varphi : f \mapsto f \circ \varphi$  is an isometry on the Bloch space. We show that such functions are either rotations of the identity function or have a factorization  $\varphi = gB$  where  $g$  is a non-vanishing analytic function from  $\Delta$  into the closure of  $\Delta$ , and  $B$  is an infinite Blaschke product whose zeros form a sequence  $\{z_n\}$  containing 0 and a subsequence  $\{z_{n_j}\}$  satisfying the conditions  $|g(z_{n_j})| \rightarrow 1$ , and

$$\lim_{j \rightarrow \infty} \prod_{k \neq n_j} \left| \frac{z_{n_j} - z_k}{1 - \overline{z_{n_j}} z_k} \right| = 1.$$

(Received August 28, 2005)