

V. Havin and J. Mashreghi, **Admissible majorants for model subspaces of  $H^2(\mathbf{R})$ , Part I: slow winding of the generating inner function**, *Can. J. Math.*, 55 (2003), 1231–1263.

**Abstract**

A model subspace  $K_\Theta$  of the Hardy space  $H^2 = H^2(\mathbf{C}_+)$  for the upper half plane  $\mathbf{C}_+$  is  $H^2(\mathbf{C}_+) \ominus \Theta H^2(\mathbf{C}_+)$  where  $\Theta$  is an inner function in  $\mathbf{C}_+$ . A function  $\omega : \mathbf{R} \mapsto [0, \infty)$  is called an admissible majorant for  $K_\Theta$  if there exists an  $f \in K_\Theta$ ,  $f \not\equiv 0$ ,  $|f(x)| \leq \omega(x)$  almost everywhere on  $\mathbf{R}$ . For some (mainly meromorphic)  $\Theta$ 's some parts of  $\text{Adm } \Theta$  (the set of all admissible majorants for  $K_\Theta$ ) are explicitly described. These descriptions depend on the rate of growth of  $\arg \Theta$  along  $\mathbf{R}$ . This paper is about slowly growing arguments (slower than  $x$ ). Our results exhibit the dependence of  $\text{Adm } B$  on the geometry of the zeros of the Blaschke product  $B$ . A complete description of  $\text{Adm } B$  is obtained for  $B$ 's with purely imaginary ("vertical") zeros. We show that in this case a unique minimal admissible majorant exists.