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## A spectral version of Cartan's uniqueness theorem

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In this talk we shall prove the following spectral version of Cartan's uniqueness theorem. Let  $\mathcal{A}$  be a primitive Banach algebra and denote by  $\Omega_{\mathcal{A}}$  its open spectral unit ball. Let  $F : \Omega_{\mathcal{A}} \rightarrow \Omega_{\mathcal{A}}$  be a holomorphic map such that  $F(0) = 0$ ,  $F'(0) = I$ , the identity of  $\mathcal{A}$ , and  $F(x)x = xF(x)$  for every  $x \in \Omega_{\mathcal{A}}$ . Then  $F$  is the identity of  $\Omega_{\mathcal{A}}$ . An application to the study of linear operators preserving the spectral radius will also be presented.