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Commutants of multiplication operators and Michael selection theorem.

We consider multiplication operators on the space $C(K)$ of all real-valued continuous functions on a compact Hausdorff space K assuming that K has no isolated points. Using Michael selection theorem we prove that if K is connected and locally connected then the double commutant of any such operator T coincides with operator norm closure of the algebra generated by T and the identity operator. We show that the condition that K is connected is necessary but not sufficient for the result above and the condition that K is connected and locally connected is sufficient but not necessary. (Received August 18, 2012)