

The First IPM Isfahan Workshop on General Topology
January 27-29, 2015.

CONNECTEDNESS OF SOME RINGS OF QUOTIENTS OF $C(X)$
WITH THE m -TOPOLOGY

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ABSTRACT. In this talk we give characterizations of some rings of quotients of $C(X)$, the ring of all real valued continuous functions on a completely regular Hausdorff space X . In this connection we introduce special spaces such as P -spaces, F -spaces and almost P -spaces. We derive algebraic characterizations and also topological properties of these spaces. Next, we define the m -topology on these rings of quotients of $C(X)$. Using this, we equip the classical ring of quotients $q(X)$ and the maximal quotients $Q(X)$ of $C(X)$ with the m -topology. We give characterization of the components of $C_m(X)$, $C(X)$ with the m -topology, and also $C_r(X)$, that is $C(X)$ with the r -topology. Using this, it turns out that $C_m(X)$ is connected if and only if X is pseudocompact. We also observe that $q(X)$ with the m -topology is connected if and only if $C(X)$ with the r -topology is connected if and only if X is a pseudocompact almost P -space.

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