

Werk

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Theorem 3.8. *Let X be (tH, rJ) -separated and $\mu_t H(p) \subset \mu_\theta(p)$ for each $p \in X$. If (X, τ) is rim- rJ -compact then for each $p \in X$, $\mu_t H(p) \subset \mu(p)$.*

Proof. Let $p \in V \in \tau$. Then there exists some $W \in \tau$ such that $p \in W \subset V$ and $\text{Fr}(W)$ is $rJ(\text{Fr}(W))$ -compact. Now $p \notin \text{Fr}(W)$ and (tH, rJ) -separation imply that for each $y \in \text{Fr}(W)$, $\mu_t H(p) \cap \mu_r J(y) = \emptyset$. Thus $\mu_t H(p) \cap *(\text{Fr}(W)) = \emptyset$. Now $\mu_t H(p) \subset \mu_\theta(p) \subset *(\text{cl}_Y W)$ implies that $\mu_t H(p) \cap *(Y - W) = \mu_t H(p) \cap *(\text{Fr}(W)) = \emptyset$. Hence $\mu_t H(p) \subset *V$ implies that $\mu_t H(p) \subset \mu(p)$.

Corollary 3.8.1. *Every rim- θ -compact Urysohn [resp. rim- α -compact Hausdorff, rim- S -compact weakly-Hausdorff extremally disconnected] space is regular. Every rim- S -compact weakly-Hausdorff space is semiregular.*

Proof. A space is regular iff for each $p \in X$, $\mu(p) = \mu_\theta(p)$. A space is Urysohn iff it is (θ, θ) -separated. If X is weakly-Hausdorff, then it is (α, S) -separated. Also, in general, a weakly-Hausdorff extremally disconnected space is a Urysohn space such that for each $p \in X$, $\mu_\theta(p) = \mu S(p)$.

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