Year: 2011 **Vol.: 78** **Fasc.: 3-4**

Title: Weakly-peripherally multiplicative conditions and isomorphisms between uniform algebras

Author(s): Rumi Shindo

Suppose that A and B are uniform algebras on compact Hausdorff spaces X and Y, respectively. Let $\rho, \tau : \Lambda \to A$ and $S, T : \Lambda \to B$ be mappings on a nonempty set Λ. Suppose that $\rho(\Lambda), \tau(\Lambda)$ and $S(\Lambda), T(\Lambda)$ are closed under multiplications and contain $\exp A$ and $\exp B$ respectively and that $S(e_1) \in S(\Lambda)^{-1}$, $T(e_2) \in T(\Lambda)^{-1}$ with $|S(e_1)T(e_2)| = 1$ on $\mathrm{Ch}(B)$ for some fixed $e_1, e_2 \in A_1$ with $\rho(e_1) = \tau(e_2) = 1$. If $\sigma_\pi\left(S(f)T(g)\right) \cap \sigma_\pi\left(\rho(f)\tau(g)\right) \neq \emptyset$ for all $f, g \in \Lambda$ and there exists a first-countable dense subset D_B in $\mathrm{Ch}(B)$, or a first-countable dense subset D_A in $\mathrm{Ch}(A)$, then there exists an algebra isomorphism $\widetilde{S} : A \to B$ such that $\widetilde{S}(\rho(f)) = S(e_1)^{-1}S(f)$ and $\widetilde{S}(\tau(f)) = T(e_2)^{-1}T(f)$ for every $f \in \Lambda$.

Address:
Rumi Shindo
NSG Academy Co. Ltd., 11-32
Higashiodori 1-cho-me
Chuo-ku, Niigata, 950-0087
Japan