

Title: On the embeddability of commuting continuous injections in iteration semigroups

Author(s): Dorota Krassowska and Marek Cezary Zdun

Let $f, g: (a, b) \to (a, b)$ be commuting continuous injections, iteratively incommensurable and such that f < g < id. We consider the problem of the embeddability of the mappings f and g in an iteration semigroup (semiflow). Among others we show that if f and g are continuously differentiable in an open interval $(a, a + \delta)$ and f' > 0, g' > 0 are of finite variation in $(a, a + \delta)$, then there exists a unique continuous iteration semigroup $\{h^t: t \ge 0\}$ of continuous functions such that $h^1 = f$ and $g \in \{h^t: t \ge 0\}$. We also consider the problem of the embeddability of convex and concave functions.

Address:

Dorota Krassowska Faculty of Mathematics Computer Science and Econometrics University of Zielona Góra Licealna 9 PL-65-417 Zielona Góra Poland *E-mail:* d.krassowska@wmie.uz.zgora.pl Address: Marek Cezary Zdun Institute of Mathematics Pedagogical University of Cracow Podchorążych 2 PL-30-084 Kraków Poland *E-mail:* mczdun@ap.krakow.pl