Hierarchy of Dendrites under Weakly Confluent Maps

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Given continua X and Y and a class $\mathcal{F}$ of maps, between continua, we establish that: (1) $X \leq_{\mathcal{F}} Y$ if there exists an onto map $f : X \to Y$ belonging to $\mathcal{F}$; (2) $X \approx_{\mathcal{F}} Y$ or $\mathcal{F}$-equivalent if $X \leq_{\mathcal{F}} Y$ and $Y \leq_{\mathcal{F}} X$

A continuum X is said to be *isolated with respect to* $\mathcal{F}$ provided that the above mentioned class to which X belongs consist only of X.

On 1995, Janusz and Wlodelk Charatonik made a very complete study of the order $\leq_{\mathcal{F}}$ the most related results concern open and monotone maps. J.J. Charatonik proposed to characterize $\mathcal{F}$-isolated dendrites.

On 2001, W. Charatonik et. al. proved that, for each $n \geq 3$ and for each $m \in \{3, 4, \ldots\}$, the Gehmann dendrite G_n and the universal dendrite D_m are not monotone equivalent

On 2016, C. Mouron and V. Martinez-de-la-Vega proved that a dendrite X is isolated with respect to monotone maps if and only if the set of ramification points of X is finite.

Let $\mathcal{W}$ the class of Weakly confluent maps. In this talk, We study hierarchy of dendrites with respect to $\leq_{\mathcal{W}}$: (A) We study dendrites with finite set of ramification points. (B) We compare dendrites with other curves (C) We characterize $\mathcal{W}$-isolated finite graphs. (C) We show that that, for each $n \geq 3$ and for each $m \in \{3, 4, \ldots\}$, the Gehmann dendrite G_n and the universal dendrite D_m are $\mathcal{W}$-equivalent. (D) We show that maximal dendrites with respect to $\leq_{\mathcal{W}}$ are those with uncountably many end-points.

(joint work with A. Illanes, J.Martinez-Montejano, D. Michalik)