Coincidence points of (n, m)-valued pairs of maps of a circle

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Given sets X, Y and $n \in \mathbb{N}$, a map $f\colon X \multimap Y$ is n-valued, if for every $x \in X$ the image $f(x)$ has cardinality n [3]. A *graph intersection point* of a pair of multivalued maps f and g is defined as a point $(x, y) \in X \times Y$ for which $f(x) \cap g(x) \neq \emptyset$, while a *domain coincidence point* is the x-coordinate of some point of the above intersections [1, 2]. In this talk we consider (n, m)-valued pairs of maps $f, g\colon S^1 \multimap S^1$ and study the relations between the number of domain coincidence points and the number of their graph intersection points.

References

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