

Curve-rational functions

Krzysztof Kurdyka

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Résumé

Let X be an algebraic subset of \mathbb{R}^n and $f : X \rightarrow \mathbb{R}$ a semialgebraic function. We prove that if f is continuous rational on each curve $C \subset X$ then :

1. f is arc-analytic,
2. f is continuous rational on X .

As a consequence we obtain a characterization of hereditarily rational functions recently studied by J. Kollár and J.K. Nowak,. The last paper is related to a recent work of C. Fefferman and J. Kollar on solutions of linear systems with polynomial coefficients. Joint work with W. Kucharz