

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

Thursday, 29 November 2018, 12:15-13:00

Seminarraum 05.002, Spiegelgasse 5

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Tamm's Theorem for log-analytic functions

ABSTRACT

In the paper “Extending Tamm’s Theorem” by L. van den Dries and C. Miller a parametric result of Tamm’s theorem is given. This talk is about a generalization of this result: Let $X \subseteq \mathbb{R}^{n+m}$ and $f : X \rightarrow \mathbb{R}^m$ be a log-analytic function. This means that f is a global subanalytic function augmented by logarithmic terms. Then there exists $N \in \mathbb{N}$, so that for all $(x_0, y_0) \in \mathbb{R}^{n+m}$, if $y \mapsto f(x_0, y)$ is C^N in a neighbourhood of y_0 , then $y \mapsto f(x_0, y)$ is real analytic in a neighbourhood of y_0 . We also observe that this theorem doesn’t hold in the o-minimal structure $\mathbb{R}_{\text{an,exp}}$ in general.