Peter M. AKHMETIEV

Two applications of the Pontryagin–Thom construction in embedding theory

Abstract. The following results will be presented:

1. A generic smooth map $f : N^n \to \mathbb{R}^m$ is the orthogonal projection of some embedding $\bar{f} : N \hookrightarrow \mathbb{R}^M$ if and only if f composed with the inclusion $\mathbb{R}^m \subset \mathbb{R}^M$ is C^0-approximable by embeddings, provided that $n \leq \min(m,\ M - \frac{m+3}{2},\ \frac{m}{2} + \frac{M}{4})$.

2. There exists a generic immersion $f : S^7 \looparrowright \mathbb{R}^{11}$ such that f composed with the inclusion $\mathbb{R}^{11} \subset \mathbb{R}^{13}$ is C^0-approximable by embeddings but not C^1-approximable by embeddings (in particular, f is not the projection of any embedding $S^7 \hookrightarrow \mathbb{R}^{13}$).