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**"Algebraic number of cross-up singularities and  
intersection number of polynomial immersions"**

**Abstract:**

There will be presented correspondence between algebraic number of cross-cup singularities and intersection number of polynomial immersions from the  $n$  dimensional sphere to  $\mathbb{R}^{2n}$ . This both invariants associated with polynomial mappings and real algebraic sets may be expressed in terms of signatures of appropriate quadratic forms. There will be presented method of computing them.