A parametrized Borsuk-Ulam theorem for Banach bundles

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Abstract: The paper studies the size of the set of zeros of an equivariant map from a sphere bundle with a free action to a vector bundle with an orthogonal action of one of the groups S^d, $d \in \{0, 1, 3\}$ or Z_p, p an odd prime. The main result is a generalization of a parametrized Borsuk-Ulam theorem, which is known for finite-dimensional bundles, to infinite-dimensional Banach bundles.