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(4) BLOWING UP

Let us take $W \subset V_0$ and an endomorphism $f: V_0 \rightarrow V_0$ such that $f^{-1}(W) = W$. The endomorphism f can be sometimes lifted to the manifold V obtained by blowing up W .

EXAMPLE. $V_0 = \mathbf{CP}^1 \times \mathbf{CP}^1$, W is the single point $(0, 0)$, and $f: (z_1, z_2) \mapsto (z_1^p, z_2^p)$.

(5) CONCLUDING REMARKS

A typical compact complex manifold has very few endomorphisms. For example, manifolds with nontrivial Kobayashi volume have no endomorphisms of degree ≥ 2 . Do Grassmann manifolds have such endomorphisms? (No, see [3'].)

REFERENCES

- [1] ARTIN, M. and B. MAZUR. On periodic points. *Ann. of Math. (2)* 81 (1965), 82–99.
- [1'] KALOSHIN, V. YU. and B. R. HUNT. A stretched exponential bound on the rate of growth of the number of periodic points for prevalent diffeomorphisms I. *Electronic Research Announcements of AMS* 7 (April 18, 2001), 17–27.
- [2] BOWEN, R. Entropy for group endomorphisms and homogeneous spaces. *Trans. Amer. Math. Soc.* 153 (1971), 401–414.
- [3] MILNOR, J. On the Betti numbers of real varieties. *Proc. Amer. Math. Soc.* 15 (1964), 275–280.
- [3'] PARANJAPPE, K. H. and V. SRINIVAS. Self maps of homogeneous spaces. *Invent. Math.* 98 (1989), 425–444.
- [4] MISIUREWICZ, M. and F. PRZYTYCKI. Topological entropy and degree of smooth mappings. *Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* 25 (1977), 573–574.
- [5] SHUB, M. Dynamical systems, filtrations and entropy. *Bull. Amer. Math. Soc.* 80 (1974), 27–41.
- [5'] GROMOV, M. *Partial Differential Relations*. Springer, 1986.

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