

# REGULARITY AT INFINITY OF MAPPINGS

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We prove a Morse-Sard type theorem for the asymptotic critical values of semi-algebraic mappings and a new fibration theorem at infinity for mappings. We show the equivalence of different types of regularity conditions which have been used in the literature in order to control the asymptotic behavior of mappings. If time permits, we prove a sufficient condition for the Jacobian problem. This follows from the study of the bifurcation locus of a mapping subject to a new Newton non-degeneracy condition.

This talk is based on [1] and [2].

## REFERENCES

- [1] Chen, Y., Dias, L. R. G., Takeuchi, K. and Tibăr, M. *Invertible Polynomial Mappings via Newton non-degeneracy*, arXiv: 1303.6879 (to appear in Ann. Inst. Fourier (Grenoble)), **2013**.
- [2] Dias, L. R. G., Ruas, M. A. S. and Tibăr, M. *Regularity at infinity of real mappings and a Morse-Sard theorem*, J. Topology 5, no. 2, 323340, **2012**.