

# On the Ogasa number

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Given a manifold  $M$ , we look for the Morse functions with the “simplest” regular levels, where the complexity of a level is the sum of its Betti numbers. The Ogasa number  $\nu(M)$  is the integer such that any Morse function on  $M$  has at least a level of complexity  $\nu(M)$ , while  $M$  admits a Morse function whose regular levels have at most complexity  $\nu(M)$ .

In dimension 3, with Michel Boileau (AMU, Marseille, France) we have understood what this dynamical invariant measures, and we have shown how it is related to other topological, geometric and algebraic invariants of the underlying manifold.