

INSTITUTUL DE MATEMATICĂ “SIMION STOILOW” AL ACADEMIEI ROMÂNE

Seminarul de topologie

Deconstructing formality

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Abstract: A basic notion in rational homotopy theory is that of 1-formality for finitely generated groups, a property which allows one to reconstruct the rational pro-unipotent completion of the group solely from the cup products of degree 1 cohomology classes. We recast this notion as the simultaneous presence of two weaker properties (graded formality and filtered formality), and explain how these notions behave with respect to various group operations. We illustrate our approach with examples drawn from a variety of contexts, such as 1-relator groups, finitely generated torsion-free nilpotent groups, link groups, fundamental groups of Seifert fibered manifolds, and pure virtual braid groups. This is joint work with He Wang.