Abstract

of the three talks by Gergely Bérczi

The polynomial reparametrizations of $\mathbb{C}$ form a non-reductive group acting on the space of map germs $\mathbb{C} \to \mathbb{C}^n$. In this series of talks we will describe a compactification of the quotient and develop a new method to compute intersection numbers on it using equivariant localization.

The motivation is to apply these formulas in two—seemingly unrelated—situations.

First we show how this method gives us iterated residue formulas for Thom polynomials of singularities in global singularity theory.

The second application is the Green-Griffiths conjecture form 1979, saying that any projective variety X of general type has a proper subvariety $Y \subset X$, such that any entire holomorphic curve $f : \mathbb{C} \to X$ sits in Y

Following the strategy of Demailly, Siu, Diverio, Merker and Rousseau, when $X \subset \mathbb{P}^{n+1}$ is a hypersurface, we prove the existence of global invariant jet differentials using the developed formulas, and show how this implies the conjecture when $\deg(X) > \dim(X)^6$.