

$\bar{\partial}$ -Homotopy Integral Formulas on Singular Varieties

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As it is well-known, integral formulas are an elegant way to construct homotopy formulas for the $\bar{\partial}$ -operator on complex manifolds. Such formulas turned out to be extremely useful and have numerous applications.

There are several reasons why it is desirable to obtain $\bar{\partial}$ -homotopy integral formulas also on singular complex spaces. After pointing out some of their advantages, I will discuss the possibility of the existence of integral homotopy formulas for the $\bar{\partial}$ -operator in different function spaces. We will take a look at the Andersson–Samuelsson integral operators and explain why these operators are particularly promising on spaces with canonical singularities.

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