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Title: Pointwise Estimates for Relative Fundamental Solutions of Heat Equations in $R \times C$

Abstract: We discuss the relationship between the weighted $\bar{\partial}$ -problem in \mathbb{C} and problems in complex analysis in several variables. We investigate a particular class of heat equations in \mathbb{C} which have applications to the $\bar{\partial}_b$ -problem on (the boundaries of) a class of unbounded weakly pseudoconvex domains called polynomial model domains. We present pointwise estimates on the relative fundamental solution of the heat equation in \mathbb{C} and discuss ways to recover estimates for the relative fundamental solution of \square_b on polynomial models.