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Summability of formal solutions of linear partial differential equations with divergent initial data

We study the Cauchy problem for a general homogeneous linear partial differential equation in two complex variables (t, z) with constant coefficients and with divergent initial data.

We state necessary and sufficient conditions for the summability of formal solutions in terms of properties of divergent Cauchy data.

In the talk we consider both the summability in one variable t (with coefficients belonging to the Banach space of Gevrey series with respect to the second variable z) and the summability in two variables (t, z) in the sense of Balser.