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From the maximum principle to inverting the future.

We prove that a C_0 -semigroup of operators $\exp(At)$ satisfies backward uniqueness if the resolvent of A exists on a ray in the left half plane and satisfies a bound of subexponential growth. The proof of this result is based on the Phragmen-Lindelöf theorem.

The result can be applied to PDE systems which in a sense perturb problems for which backward uniqueness does not hold. Examples include the linearized compressible Navier-Stokes equations in one space dimension and the wave equation with absorbing boundary condition in several space dimensions, under the assumption that the boundary has positive mean curvature. (Received May 12, 2015)