1107-35-44 **Michael Renardy*** (`mrenardy@math.vt.edu`), Department of Mathematics, 225 Stanger St., Virginia Tech, Blacksburg, VA 24061-0123. *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 $z = re^{i\theta}$ in the left half plane ($\pi/2 < \theta \leq \pi$) and satisfies a bound $\|(A - zI)^{-1}\| \leq C \exp(|z|^\alpha)$, $\alpha < 1$ on this ray. 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 linear damping and absorbing boundary condition. (Received December 10, 2014)