**Linear Hyperbolic System (m=3): solution to RP**



The figure shows characteristic lines $x = \lambda_1 t$, $x = \lambda_2 t$, and $x = \lambda_3 t$ emanating from the origin $x=0$. The point is labeled $(\beta_1, \alpha_2, \alpha_3)$. The left state is $q_l$ with $(\alpha_1, \alpha_2, \alpha_3)$ and the right state is $q_r$ with $(\beta_1, \beta_2, \beta_3)$.