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**Michael S Eydenberg\*** (mseyden@nmsu.edu), Department of Mathematics, New Mexico State University, Las Cruces, NM 88003. *Growth Conditions for Solutions of the Heat Equation and Hermite Heat Equation with Boundary Values in the Dual of the Beurling-Bjorck Space.*

In this talk, we characterize the growth of smooth solutions to the Heat equation and Hermite Heat equation whose boundary values define continuous and linear functionals on the Beurling-Bjorck spaces. We obtain pointwise estimates for solutions to the Heat equation that are both sufficient and necessary to ensure that the boundary value defines a functional in the sense of a particular limit. We then extend these results to solutions of the Hermite Heat equation by use of a theorem of Marcinkiewicz concerning the boundedness of multiplier operators acting on Hermite expansions. This work aims to extend the results of Chung and Kim (1995) for Fourier hyperfunctions and of B. Dhungana (2006) for tempered distributions. (Received August 08, 2007)