Jens Gerlach Christensen* (jens.christensen@tufts.edu), MA. Decomposition of spaces of distributions using Gårding vectors. A general machinery for construction of Banach spaces of distributions from group representation is presented. Via a sampling theorem on reproducing kernel Banach spaces on Lie groups, we then decompose the spaces of distributions. It is then shown that the use of Gårding vectors is particularly convenient when the representation involved is square integrable. (Received September 21, 2011)