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**Jens Gerlach Christensen\*** (jchristensen@colgate.edu), **Karlheinz Gröchenig** and **Gestur Ólafsson**. *Bergman spaces in several complex variables and coorbit theory*. Preliminary report.

We show that the Bergman spaces on the unit ball in several complex variables can be described via a wavelet theory for an appropriate covering group of  $SU(n, 1)$ . We also provides atomic decompositions and frames for the Bergman spaces via sampling on the group. A remarkable result is that translates of any polynomial (or more generally, any smooth vector for the representation) provides atomic decompositions and frames. This is joint work with Karlheinz Gröchenig and Gestur Ólafsson. (Received August 06, 2014)