A New Form of the Segal-Bargmann Transform for Lie Groups of Compact Type

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Abstract. I consider a two-parameter family $B_{s,t}$ of unitary transforms mapping an $L^2$-space over a Lie group of compact type onto a holomorphic $L^2$-space over the complexified group. These were studied using infinite-dimensional analysis in joint work with B. Driver, but are treated here by finite-dimensional means. These transforms interpolate between two previously known transforms, and all should be thought of as generalizations of the classical Segal-Bargmann transform. I consider also the limiting cases $s \rightarrow \infty$ and $s \rightarrow t/2$. 

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