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In this talk we describe a Bargmann transform for the Hilbert space  $L^2(S^n)$  with  $n = 2, 3, 5$ . This transform is constructed on base of a classical canonical transformation which relates two different ways to regularize the Kepler problem: the Moser map and the one related to the Hopf fibration (Levi-Civita for  $n = 2$  and Kustaanheimo-Stiefel for  $n = 3$ ). The moment map method is used to construct such a canonical transformation. Some properties of the coherent states related to the Bargmann transformation are discussed and their connection with the hydrogen atom problem. (Received January 19, 2006)