1016-81-48 **Carlos Villegas-Blas*** (villegas@matcuer.unam.mx), Instituto de Matematicas UNAM, Unidad Cuernavaca, 62251 Cuernavaca Morelos, Morelos, Mexico. *The Bargmann transform and regularization of the $n = 2, 3, 5$ dimensional Kepler problem.* Preliminary report.

In this talk we decribe 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)