1037-81-163 **Carlos Villegas-Blas*** (villegas@matcuer.unam.mx), Avenida Universidad S?N, Col. Lomas de Chamilpa, 62251 Cuernavaca Morelos, Morelos, Mexico, and **Alejandro Uribe**. *Asymptotics of spectral clusters for a perturbation of the hydrogen atom.* Preliminary report.

Consider the Schrödinger operator $H = H_0 + \epsilon(\hbar)Q_\hbar$ acting on $L^2(R^n)$ and where H_0 is the Hamiltonian operator of the n-dimensional hydrogen atom (with the Planck's parameter $\hbar$ included), $Q_\hbar$ is a $\hbar$-admissible pseudodifferential operator of order zero and the multiplicative factor $\epsilon(\hbar)$ is $O(\hbar^{1+\delta})$ with $\delta > 0$.

We describe a limiting eigenvalue distribution theorem for suitable defined clusters of eigenvalues of the operator H in the semiclassical limit $N \to \infty$ with $\hbar = 1/N$. The limit involves the averages of the principal symbol of $Q_\hbar$ along the regularized orbits in phase space of the n-dimensional Kepler problem. (Received January 31, 2008)