## ОБЪЕДИНЕННЫЙ ИНСТИТУТ ЯДЕРНЫХ ИССЛЕДОВАНИЙ Лаборатория теоретической физики им. Н. Н. Боголюбова



## Семинар «МАЛОЧАСТИЧНЫЕ СИСТЕМЫ»

вторник, 7 февраля 2017 г., 11:00 аудитория им. Д.И.Блохинцева (4 этаж)

## TWO-DIMENSIONAL HYDROGEN ATOM IN A TILTED MAGNETIC FIELD

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The aim of the current work is the numerical research of the anisotropic characteristics of the two-dimensional hydrogen atom induced by a magnetic field. The ground-state energy (GSE) of the two-dimensional hydrogen atom and the corresponding wave function have been numerically calculated in the infinite proton mass approximation and with taking into account the finite mass of the proton. The non-linear dependence of GSE on the angle  $\alpha$  between the magnetic field vector and the normal to the plane of electron motion in a wide range of magnetic field strength has been found. The effect of a significant reduction of GSE (up to 1.9-fold) is observed with increasing the angle  $\alpha$  up to 90 degrees.