Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

High density limit of the correlation energy of a two dimensional electron liquid in the presence of Rashba spin-orbit GABRIELE F. GIULIANI, STEFANO CHESI, Department of Physics, Purdue University — We obtain analytic expressions for the high density limit of the correlation energy of a two dimensional electron liquid in the presence of Rashba spin-orbit. As a byproduct we have derived an analytic expression for the dependence of the ring diagrams contribution to this quantity on the fractional spin polarization of the system in the absence of spin-orbit. We will show that the latter is not properly represented by current standard interpolation formulas obtained from Monte-Carlo calculations.

Gabriele F. Giuliani
Department of Physics, Purdue University

Date submitted: 17 Nov 2006 Electronic form version 1.4