

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Two-dimensional Yukawa fluids MINERVA GONZALEZ-MELCHOR,
Instituto de Fisica “Luis Rivera Terrazas,” Benemerita Universidad Autonoma
de Puebla, Apdo. Postal J-48, Puebla, 72570, Puebla, Mexico, ARLETTE
MENDEZ, JOSE ALEJANDRE, Departamento de Quimica, Universidad Autonoma
Metropolitana-Iztapalapa. Av. San Rafael Atlixco 186, Col. Vicentina, 09340 Mex-
ico Distrito Federal, Mex — When the movement of particles is performed pre-
dominantly in two dimensions, the systems can be considered at a good extent as
two-dimensional. For instance the lipids in a bilayer, micrometric particles in a
quasi-two-dimensional colloidal suspension, colloids in a monolayer deposited on the
air-water interface, and DNA complexes trapped at the water surface can be de-
scribed at a first approach as bidimensional fluids. These systems are important
for many applications in surface and colloidal science. In simulations where the
explicit interface between liquid and vapor is present, the line tension can be di-
rectly computed. In this work we present molecular dynamics results obtained for
the liquid/vapor coexistence curve of 2D Yukawa fluids and for the line tension. A
comparison with the three-dimensional case is also presented.

Minerva Gonzalez
Univ Autonoma de Puebla

Date submitted: 14 Nov 2014

Electronic form version 1.4