JOURNAL OF
SYMPLECTIC GEOMETRY
Volume 8, Number 1, 67–72, 2010

A MAXIMAL RELATIVE SYMPLECTIC PACKING CONSTRUCTION

Lev Buhovsky

In this paper we present an explicit construction of a relative symplectic packing. This confirms the sharpness of the upper bound for the relative packing of a ball into the pair $(\mathbb{CP}^2, \mathbb{T}^2_{\mathrm{Cliff}})$ of the standard complex projective plane and the Clifford torus, obtained by Biran and Cornea.

1. Introduction and main results

In this note we present an explicit construction of a relative packing. The subject of symplectic packing was introduced first in the seminal work of Gromov [**Gr**]. Gromov showed that looking at symplectic embeddings of a standard ball into a symplectic manifold, one may obtain an upper bound on the radius of a ball which is stronger than the obstruction coming from the volume. The first theorem in this direction is a non-squeezing theorem from [**Gr**]. This result has led to the definition of the Gromov capacity, which plays an important role in modern symplectic geometry. Later the subject of symplectic packing was treated by Biran, Karshon, Mc'Duff, Polterovich, Schlenk, Traynor and others, see [**Bi-1**, **Bi-2**, **Bi-3**, **Bi-4**, **K**, **M-P**, **Sch-1**, **Sch-2**, **Sch-3**, **Tr**]. New obstructions for symplectic packings of various domains were found. On the other hand, attempts were made to find explicit constructions of certain symplectic embeddings, in order to show that the obstructions, which were found, are tight (see, e.g., [**K**, **Sch-4**, **Tr**]). This note is devoted to proving a new result in this direction.

Recently, Biran and Cornea [**Bi-Co**] found new obstructions on the relative symplectic packing in a number of situations, which are stronger than

The author was partially supported by the ISRAEL SCIENCE FOUNDATION (grant No. 1227/06 *).