

SCIENTIFIC REPORT OF ANDREA LOI

Short visit grant

Report reference number 4016

During my visit in Varna I have attended the XIII International Conference in Geometry, Integrability and Quantization, June 3-8 2011, Varna, Bulgary and I gave a talk titled:

Balanced metric, TYZ expansion and quantization of Kähler manifolds.

where I have presented recent results obtained in a joint work with Claudio Arezzo and Fabio Zuddas.

I met some specialist in geometric quantization of a Kähler manifold as Mauro Spera and together with him we plan to develop some ideas on the infinite dimensional grassmannian which could be useful for our future research. In particular, we would like to generalize to the infinite dimensional setting, in particular to infinite dimensional complex grassmannian, the result obtained jointly with A. J. Di Scala in *Symplectic duality of symmetric spaces*. I have also met Professor Yoshioka an expert in the quantization by deformation of a Kähler manifold (his talk was about *-product and Weyl quantization). I have discussed with him about Berezin quantization by deformation of Kähler manifolds. I plan to extend Berezin's results which are valid for bounded symmetric domains and C^n (with the Bergman and flat metric respectively) to any bounded homogeneous domain equipped with any homogeneous metric (not necessarily the Bergman one).

In summary, my visit in Varna was very fruitful from the scientific point of view and gave to me the opportunity to have scientific contact with outstanding mathematicians working on geometric quantization and quantization by deformation of Kähler manifolds.

Cagliari, 10 June 2011

Andrea Loi

