

Meeting: 1003, Atlanta, Georgia, SS 11A, AMS Special Session on Riemannian Geometry, I

1003-58-1145 **Jianguo Cao*** (cao.7@nd.edu), Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556, and **Hao Yin** (yinhao@math.pku.edu.cn), Institute of Mathematics, Peking University, 100871 Beijing, Peoples Rep of China. *Open Kähler manifold with positive bi-sectional curvature is diffeomorphic to C^n .*

A conjecture of Siu-Yau-Wu asserts that any open complete Kähler manifold M with positive bi-sectional curvature is bi-holomorphic to the Euclidean complex space. Recall that the bi-sectional curvature is given by $B_M(X, Y) = sec_M(X, Y) + sec_M(X, JY)$, where $\{X, Y, JX, JY\}$ are orthogonal *real* tangent vectors, J is the complex structure of M . Thus, the condition of positive bisectonal curvature is weaker than the condition of positive sectional curvature.

In this lecture, we present the following theorem:

Theorem A Let M be a complete non-compact Kähler manifold with positive bi-sectional curvature. Then M is diffeomorphic to the Euclidean complex space. (Received October 04, 2004)