AN IMPROVED TOPONOGOV COMPARISON THEOREM
FOR NONNEGATIVELY CURVED MANIFOLDS

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INTRODUCTION

The main result of this paper is a global comparison theorem of Topono-gov type which gives improved estimates in open nonnegatively curved manifolds. Previously, estimates on such a manifold could only be made by comparison with $\mathbf{R}^2$. It is apparent that further improvements can be made, which lead towards an integral formulation of the theorem.

The application presented in section 5 is intended primarily as an example of the usefulness of this comparison theorem, and not as the optimal approach to the conjecture of Cheeger and Gromoll. It does in fact seem to me that this approach must be stretched to its limit if it is intended to be used in an effort to prove the conjecture.

The following is a list of the contents of this paper: