

**Meeting:** 1001, Evanston, Illinois, SS 7A, Special Session on Geometric Partial Differential Equations

1001-35-83            **Junfang Li** and **Meijun Zhu\*** (mzhu@math.ou.edu), Department of Mathematics, University of Oklahoma, Norman, OK 73019. *Sharp local embedding inequalities.*

In this talk, we shall report our results on local versions of Onofri and sharp Sobolev inequalities. Such local inequalities enable us to give a more direct and simpler proof of Onofri inequality on  $S^2$ , as well as an alternative proof of sharp Sobolev inequalities on  $S^n$  (for  $n \geq 3$ ). More specifically, using those local inequalities we are able to prove Onofri inequality without using Moser inequality (the sharp form of Trudinger inequality), and prove the sharp Sobolev inequality without using Bliss lemma. (Received August 11, 2004)