

Meeting: 1004, Bowling Green, Kentucky, SS 13A, Special Session on Nonlinear Analysis and Applied Mathematics

1004-26-275 **Jochen Denzler*** (denzler@math.utk.edu), Department of Mathematics, University of Tennessee, Knoxville TN 37996-1300 USA, denzler@math.utk.edu. *Opial's Inequality for Zero-Area Constraint.*

This is about the sharp constant in the inequality $\int_0^1 |yy'| dx \leq c \int_0^1 y'^2 dx$ under the constraint $\int_0^1 y dx = 0$. Unlike the case of Dirichlet boundary conditions, the problem with zero average seems much more difficult. There are now two different proofs available, one by this author, another, independent one by R. Brown and M. Plum. (Received January 31, 2005)