

Meeting: 1009, Annandale-on-Hudson, New York, AMS CP 1, Session for Contributed Papers

1009-41-8 **George A Anastassiou*** (ganastss@memphis.edu), Dept.Math.Sci., University of Memphis,
Memphis, TN 38152. *Basic convergence with rates of smooth Picard singular integral
operators.* Preliminary report.

The smooth Picard singular integral operators are introduced. These are not positive operators. We study the rate of convergence of these operators to the unit over smooth functions. We establish Jackson type estimates with respect to uniform norm or just pointwise. Many of the produced inequalities are proved sharp, namely attained by simple functions. With the help of geometric moment theory method we give best upper bounds to the error quantity. Inequalities involve the higher modulus of smoothness and we give also handy estimates in special cases. (Received January 30, 2005)