

Meeting: 1004, Bowling Green, Kentucky, SS 7A, Special Session on Semigroups of Operators and Applications

1004-47-249 **Khristo N Boyadzhiev*** (k-boyadzhiev@onu.edu), 525 S. Main, Ada, OH 45810. *Integral representations of analytic functions on sectors and H^{inf} calculus for generators of semigroups.*

Bounded analytic functions $f(z)$ on sectors are represented by modified Cauchy type integrals involving the special kernel $z/(z+w)^2$. This makes it possible to define an H^{inf} functional calculus $f(A)$ for certain Banach space operators A of type θ by an explicit integral formula for $f(A)$. The norm of $f(A)$ can be estimated exactly in terms of resolvent estimates and the uniform norm of f . The integral representation of $f(A)$ is used, among other things, to obtain sharp pointwise moment type inequalities for the fractional powers of the operator A . (Received January 25, 2005)