## 1048-45-159 **Bo Zhang\*** (bzhang@uncfsu.edu), Department of Math and Computer Science, Fayetteville State University, Fayetteville, NC 28304. *Boundedness and Global Attractivity of Solutions for a* System of Nonlinear Integral Equations.

It is well-known that Liapunov's direct method has been used very effectively for differential equations. The method has not, however, been used with much success on integral equations until recently. The reason for this lies in the fact that it is very difficult to relate the derivative of a scalar function to the unknown non-differentiable solution of an integral equation. In this paper, we construct a Liapunov functional for a system of nonlinear integral equations. From that Liapunov functional we are able to deduce conditions for boundedness and global attractivity of solutions. As in the case for differential equations, once the Liapunov function is constructed, we can take full advantage of its simplicity in qualitative analysis. (Received February 05, 2009)