Nikolaos S. Papageorgiou
Boundary value problems and periodic solutions for semilinear evolution inclusions

Abstract: We consider boundary value problems for semilinear evolution inclusions. We establish the existence of extremal solutions. Using that result, we show that the evolution inclusion has periodic extremal trajectories. These results are then applied to closed loop control systems. Finally, an example of a semilinear parabolic distributed parameter control system is worked out in detail.

Keywords: evolution operator, multifunction, Hausdorff metric, extremal solution, periodic solution, Fredholm alternative, control system, parabolic system
AMS Subject Classification: 34G20