Flow invariance of closed sets

Wojciech Kryszewski
Lodz University of Technology (Poland)

Abstract

I shall discuss the criteria for the viablity, the invariance and the strong invariance of level sets of locally Lipschitz functionals (i.e. in particular arbitrary closed sets) with respect to the flow generated by an infinite dimensional nonlinear evolution problem of the form $u_t + \mathbf{A}u = f(t, u)$, where $\mathbf{A}$ is a quasi m-accretive (nonlinear or even multivalued, in general) operator acting in a reflexive Banach space f is continuous. Some concrete applications will illustrate the meaning of the discussed results.