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Alessandro Arsie* (alessandro.arsie@utoledo.edu), The University of Toledo, 2801 W. Bancroft St, Toledo, OH 43606, and **Christian Ebenbauer**. *A generalization of LaSalle's invariance principle and applications.*

In this talk, I will present a generalization of LaSalle's invariance principle. In particular, I will show how it can be used to locate the ω -limit set of a bounded solution of a given autonomous vector field f on a Riemannian manifold. Assuming to know that the ω -limit set Ω is contained in an embedded submanifold \mathcal{S} and using an auxiliary function that we call *height function* W for f and \mathcal{S} , we show how to obtain a better estimate of the location of Ω under mild assumptions. Several consequences and an application to a type of polynomial vector fields will be presented. (Received September 22, 2017)