COMPLETENESS IN THE MACKEY TOPOLOGY

JOSÉ RODRÍGUEZ
UNIVERSIDAD DE MURCIA

ABSTRACT. A Banach space X is said to be universally Mackey complete if $(X, \mu(X, Y))$ is complete for every norming and norm-closed subspace $Y \subset X^*$, where $\mu(X, Y)$ is the Mackey topology on X associated to the dual pair $\langle X, Y \rangle$. This class of Banach spaces was studied by Bonet and Cascales [1], and Guirao, Montesinos and Zizler [3]. In this talk we will review their main results on universally Mackey complete spaces, and we will present some improvements obtained recently in a joint work with Guirao and Martínez-Cervantes [2]. Some related open problems will be discussed as well.

REFERENCES

[1] J. Bonet and B. Cascales, *Noncomplete Mackey topologies on Banach spaces*, Bull. Aust. Math. Soc. **81** (2010), no. 3, 409–413.

[2] A.J. Guirao, G. Martínez-Cervantes, and J. Rodríguez, *Completeness in the Mackey topology by norming subspaces*, J. Math. Anal. Appl. **478** (2019), no. 2, 776–789.

[3] A.J. Guirao, V. Montesinos, and V. Zizler, *A note on Mackey topologies on Banach spaces*, J. Math. Anal. Appl. **445** (2017), no. 1, 944–952.