

On the openness of the contraction map to the fixed ring

Jay Shapiro, George Mason University, Fairfax, VA – 22030

Abstract

Let T be a subring of R . We will discuss criteria for the induced map $\text{Spec}(R) \rightarrow \text{Spec}(T)$ to be an open map (relative to the Zariski topology). We then show that there exists a ring R and a cyclic group G of automorphism acting on R such that the fixed ring R^G is a UFD, the extension $R^G \subset R$ satisfies the going-down property, and $\text{Spec}(R) \rightarrow \text{Spec}(R^G)$ is not open.

Keywords: Spec of a ring, Zariski topology.