Posner’s theorem for PI algebras is an invaluable tool for generic construction related to PI theory. Nevertheless, one can see it shine when considering richer frameworks. One such is the group graded algebras satisfying an ordinary PI.

In this talk I will explain this theorem and its (non-trivial) generalization to group graded PI setting. However, the main part of the talk will be devoted to show a quick and conceptional proof to a theorem of Aljadeff and Haile which states that two $G$-simple f.d. algebras are graded isomorphic if and only if they have the same ideal of graded identities.