

EPSILON-STRONGLY GROUP GRADED RINGS AND PARTIAL SKEW GROUP(OID) RINGS

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This talk is based on recent joint work with Patrik Nystedt (University West, Sweden) and Hector Pinedo (Industrial University of Santander, Colombia).

Epsilon-strongly group graded rings constitute a class of rings which contains all strongly group graded rings and all crossed products associated with unital twisted partial group actions. A result of Nastasescu, Van den Bergh and Van Oystaeyen (1989) gives a characterization of strongly group graded rings which are separable over their canonical 'degree zero' subrings. A more recent result of Bagio, Lazzarin and Paques (2010) gives a characterization of crossed products, associated with unital twisted partial group actions, which are separable over their coefficient subrings. We are able to simultaneously generalize both of these results by giving a characterization of separable epsilon-strongly group graded rings. We also provide an example of a separable epsilon-strongly group graded ring (not strongly graded!) which answers a question of Le Bruyn, Van den Bergh and Van Oystaeyen (1988). We will also demonstrate our recent characterization of artinian and noetherian partial skew group(oid) rings, with an application to Leavitt path algebras. This generalizes a classical result of Park (1979).