

1106-16-1867

Christopher James Wilson* (cjwilson@butler.edu), Jordan Hall 270, Butler University, 4600 W. Sunset Ave., Indianapolis, IN 46140. *Finding the hereditary crossed product that contains a given weak crossed product—when will it be weak?*

A *weak* crossed product over a discrete valuation ring is one whose cocycle is allowed to take any nonzero value (i.e. nonunit cocycle values are permitted).

Let R be a discrete valuation ring with field of fractions F , let S be the integral closure in a tamely ramified Galois extension K of F , and let $C = \sum_{\sigma \in G} Sx_{\sigma}$ be a weak crossed product order in the algebra $\sum_{\sigma \in G} Kx_{\sigma}$. We describe a process that identifies the extremal (equivalently, hereditary) crossed product order A containing C , and we give a criterion to determine whether the cocycle for A is unit-valued in S . (Received September 15, 2014)