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Christopher J Wilson* (cjwilson@butler.edu), Dept. of Mathematics and Actuarial Science, Butler University, 4600 W. Sunset Ave, Indianapolis, IN 46208. *Weak crossed product orders over discrete valuation rings*. Preliminary report.

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

Let S be the integral closure of a DVR in a tamely ramified Galois extension of the field of fractions. We show how to compute the radical of a weak crossed product ΣSx_σ in the case that S is a DVR. We then give necessary and sufficient conditions for ΣSx_σ to be a hereditary order and derive some interesting corollaries. (Received July 27, 2010)