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Belisario A. Ventura* (bventura@csusb.edu), Department of Mathematics, California State University San Bernardino, 5500 University Parkway, San Bernardino, CA 92407. *Integer Valued Cocycles on Groupoids*. Preliminary report.

We study the correspondence between cocycles on principal r -discrete groupoids and certain non-self-adjoint subalgebras of the groupoid C^* -algebra, called analytic subalgebras. In particular, we consider the problem of constructing a continuous integer valued cocycle that corresponds canonically to a \mathbb{Z} -analytic subalgebra of the groupoid C^* -algebra. We will show that such cocycle exists and contrast our cocycle with the canonical cocycle used in the principal measured groupoid analogue of the problem mentioned above. (Received September 01, 2015)