Peter Loth* (lothp@sacredheart.edu), Department of Mathematics, Sacred Heart University, Fairfield, CT 06825. \( \mathbb{Z}_p \)-modules with partial decomposition bases. Preliminary report.

Warfield modules are direct summands of simply presented \( \mathbb{Z}_p \)-modules or, alternatively, are \( \mathbb{Z}_p \)-modules possessing a nice decomposition basis with simply presented cokernel. The concept of decomposition basis was generalized to the notion of partial decomposition basis by Jacoby. In this paper, we discuss a model-theoretic classification of \( \mathbb{Z}_p \)-modules possessing a partial decomposition basis in the language \( L^{\delta}_{\infty \omega} \). (Received August 25, 2010)