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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 $L_{\infty\omega}^\delta$. (Received August 25, 2010)