We consider linear block codes over prime fields endowed with the Lee weight. We will show that the MacWilliams extension theorem holds true for codes over \((\mathbb{Z}_q, \text{Lee weight})\), where \(q\) is a prime number of the form \(q = 2p + 1\) or \(q = 4p + 1\) with \(p\) being an odd prime. The first case \(q = 2p + 1\) has also been proven earlier, with different methods, by J.Wood.

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