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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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