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Equidistribution of sequences on the p -adic unit ball.

Techniques from harmonic analysis play a crucial role in understanding problems in analytic number theory. For example, in 1916 Hermann Weyl initiated the study of the equidistribution of sequences on the additive circle, connecting Fourier analysis to number theoretic dynamics.

Such techniques can be extended to other locally compact abelian groups. We look at the p -adic unit ball \mathbb{Z}_p as one such example, and show how Fourier analytic techniques can give us an understanding of the distribution of sequences. We show a LeVeque type inequality for the discrepancy and use it to look at the quantitative behavior of the linear sequence $na + b$, where a is a unit in \mathbb{Z}_p . (Received September 18, 2018)