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Title: On a characterization theorem for the group of p-adic numbers

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It is well known Heyde's characterization of the Gaussian distribution on the real line: Let $\xi_1, \xi_2, \ldots, \xi_n$, $n \geq 2$, be independent random variables, let α_j, β_j be nonzero constants such that $\beta_i \alpha_i^{-1} + \beta_j \alpha_j^{-1} \neq 0$ for all $i \neq j$. If the conditional distribution of the linear form $L_2 = \beta_1 \xi_1 + \beta_2 \xi_2 + \cdots + \beta_n \xi_n$ given $L_1 = \alpha_1 \xi_1 + \alpha_2 \xi_2 + \cdots + \alpha_n \xi_n$ is symmetric, then all random variables ξ_j are Gaussian. We prove an analogue of this theorem for two independent random variables in the case when they take values in the group of p-adic numbers Ω_p, and coefficients of linear forms are topological automorphisms of Ω_p.

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