

**Non-Archimedean second main theorem to small functions and applications (Join with Nguyen Viet Phuong)**

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Abstract: In this paper, we establish a new second main theorem for meromorphic functions on a non-Archimedean field and small functions with counting functions truncated to level 1. As an application, we show that two meromorphic functions on a non-Archimedean field must coincide to each other if they share  $q$  ( $q \geq 5$ ) distinct small functions ignoring multiplicities. In particular, if two non-Archimedean meromorphic functions share 5 small functions ignoring multiplicities, they must be identical. Thus, our work improves the results in EY.