Convergence for weighted sums of Lüroth type random variables

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I prove an asymptotic result, that under some simple conditions on the involved distribution functions, is valid for any Oppenheim expansion, extending a classical result proven by W. Vervaat in 1972 for denominators of the Lüroth case. The conditions imposed on the distribution functions clarify the origin of the constants involved in the result. Furthermore, I study the convergence in distribution of weighted sums of a sequence of independent random variables, and I use it to prove convergence in distribution of specific sequences of random variables which generalize known results obtained for Lüroth random variables.

Joint work with Milto Hadjikyriakou (School of Sciences, University of Central Lancashire, Cyprus campus).