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Substitutive number systems

Abstract: In the presentation we show how we can associate a primitive substitutions with a family of non-integer positional number systems with respect to the same base but with different sets of digits. In this way we generalise the classical Dumont-Thomas numeration which corresponds to one special case. Therefore, our concept also covers beta-expansions induced by Parry numbers. But we also establish links to variants of beta-expansions such as symmetric beta-expansions. In other words, we unify several well-known notions of non-integer representations within one general framework. A focus is set on finiteness and periodicity properties. We will see that these characteristics mainly depend on the substitution. This observation allows us to relate several known notions of finiteness properties.