

## Spirallike mappings and univalent subordination chains in $\mathbb{C}^n$

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**Abstract.** In this paper we consider non-normalized univalent subordination chains and the connection with the Loewner differential equation on the unit ball in  $\mathbb{C}^n$ . To this end, we study the most general form of the initial value problem for the transition mapping, and prove the existence and uniqueness of solutions. Also we introduce the notion of generalized spirallikeness with respect to a measurable matrix-valued mapping, and investigate this notion from the point of view of non-normalized univalent subordination chains. We prove that such a spiral-like mapping can be imbedded as the first element of a univalent subordination chain, and we present various particular cases and examples. If the matrix-valued mapping is constant, we obtain the usual notion of spirallikeness with respect to a linear operator.

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