

# On sectorial classes of inverse Stieltjes functions

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We introduce sectorial classes of inverse Stieltjes functions acting on finite-dimensional Hilbert space as well as scalar classes of inverse Stieltjes functions characterized by their limit values. It is shown that a function from these classes can be realized as the impedance function of an L-system whose associated operator  $\tilde{A}$  is sectorial. Moreover, it is established that the knowledge of the limit values of the scalar impedance function allows us to find an angle of sectoriality of operator  $\tilde{A}$  as well as the exact angle of sectoriality of the accretive main operator  $T$  of such a system. The corresponding new formulas connecting the limit values of the impedance function and the angle of sectoriality of  $\tilde{A}$  are provided. These results are illustrated by examples of the realizing L-systems based upon the Schrödinger operator on half-line.

The talk is based on a recent joint work with E. Tsekanovskii.