

Zeros of nonpositive type of Nevanlinna functions with one negative square

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A generalized Nevanlinna function $Q(z)$ with one negative square has precisely one generalized zero of nonpositive type in the closed extended upper halfplane. The fractional linear transformation

$$Q_\tau(z) = \frac{Q(z) - \tau}{1 + \tau Q(z)}, \quad \tau \in \mathbb{R} \cup \{\infty\},$$

of $Q(z)$ is a Nevanlinna function with one negative square as well. Let $\alpha(\tau)$ define the generalized zero of nonpositive type of Q_τ . We investigate the properties of $\alpha(\tau)$, seen as a function of the parameter τ .

The talk is based on a joint work with H.S.V. de Snoo and H. Winkler.