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**Singularities of Schröder Maps  
and Unhyperbolicity of Rational Functions**

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**Abstract.** We study transcendental singularities of a Schröder map arising from a rational function  $f$ , using results from complex dynamics and Nevanlinna theory. These maps are transcendental meromorphic functions of finite order in the complex plane. We show that their transcendental singularities lie over the set where  $f$  is not semihyperbolic (unhyperbolic). In addition, if they are direct, then they lie over only attracting periodic points of  $f$ , and moreover, if  $f$  is a polynomial, then both direct and indirect singularities lie over attracting, parabolic and Cremer periodic points of  $f$ . We also obtain concrete examples of both kinds of transcendental singularities of Schröder maps as well as a new proof of the Pommerenke-Levin-Yoccoz inequality and a new formulation of the Fatou conjecture.

**Keywords.** Schröder map, transcendental singularity, unhyperbolicity, complex dynamics, Nevanlinna theory, Pommerenke-Levin-Yoccoz inequality, Fatou conjecture.

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