ALMOST EVERYWHERE CONVERGENCE FOR MALMQUIST TAKENAKA SERIES

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The Malmquist-Takenaka (MT) system is a complete orthonormal system in $H^2(\mathbf{T})$ generated by an arbitrary sequence of points a_n in the unit disk with $\sum_n(1-|a_n|)=\infty$. The point a_n is responsible for multiplying the nth and subsequent terms of the system by a Möbius transform taking a_n to 0. One can recover the classical trigonometric system, its perturbations or conformal transformations, as particular examples of the MT system. However, many interesting choices of the sequence a_n, the MT system is less understood. We prove almost everywhere convergence of the MT series for three different classes of generating sequences (a_n).