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**Spectral sets of periodic matrices related to the strong moment problem.** (English)

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Summary: The main result of this work is a parametric description of the spectral surfaces of a class of periodic 5-diagonal matrices, related to the strong moment problem. This class is a self-adjoint twin of the class of CMV matrices. Jointly they form the simplest possible classes of 5-diagonal matrices.

**MSC:**

**30E05** Moment problems and interpolation problems in the complex plane  
**30F99** Riemann surfaces  
**47B39** Linear difference operators  
**46E22** Hilbert spaces with reproducing kernels (= (proper) functional Hilbert spaces, including de Branges-Rovnyak and other structured spaces)

Cited in 1 Document

**Keywords:**

strong moment problem; periodic CMV matrices; Hardy spaces on Riemann surfaces; conformal mappings; comb domains; reproducing kernels

**Full Text:** [DOI](#) [arXiv](#)

**References:**

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- [2] A. I. Aptekarev, Asymptotic properties of polynomials orthogonal on a system of contours, and periodic motions of Toda chains. *Mat. Sb. (N.S.)* 125 (1984), 231-258. In Russian. · [Zbl 0608.42016](#) · [doi:10.1070/SM1986v053n01ABEH002918](#) · [eudml:71614](#)
- [3] A. Bogatyrev, A combinatorial description of a moduli space of curves and of extremal polynomials. *Mat. Sb.* 194 (2003), 27-48. English Transl. *Sb. Math.* 194 (2003), 1451-1473. · [Zbl 1097.14021](#) · [doi:10.1070/SM2003v194n10ABEH000772](#)

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