The author continues his study [the author, J. Math. Anal. Appl. 461, No. 2, 1241–1259 (2018; Zbl 1384.37080)] of Hamiltonian systems with several spectral parameters of the form:

\[ JY'(x) = \left[ \sum_{k=1}^{m} \lambda_k A_k(x) + B(x) \right] Y(x), \quad x \in [a, b], \]

where \( A_k \) and \( B \) are real, locally integrable \((2n+1) \times (2n+1)\) matrices such that \( A_k^* = A_k, B^* = B \), \( \lambda_k \) are complex parameters, \( a \) is a regular endpoint and \( b \) is a singular endpoint, \( J^* = -J \). A behavior of the solution at singular point is investigated by means of the characteristic function theory. Some results for Weyl-Titchmarsh functions are given.

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37J45 Periodic, homoclinic and heteroclinic orbits; variational methods, degree-theoretic methods (MSC2010)
34B20 Weyl theory and its generalizations for ordinary differential equations

Keywords:
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