Solving triangular Schlesinger systems via periods of meromorphic differentials.

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We study the Schlesinger system of PDEs for N matrices of size (pxp) in the case when they are triangular and the eigenvalues of each matrix form an arithmetic progression with a rational difference q, the same for all matrices. We show that such a system possesses a family of solutions expressed via periods of meromorphic differentials on the Riemann surfaces of superelliptic curves. As an application to the (2x2)-case, explicit solutions of Painleve VI equations and Garnier systems are obtained.