DETERMINANTAL REPRESENTATIONS OF ELLIPTIC CURVES VIA WEIERSTRASS ELLIPTIC FUNCTIONS*

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Abstract. Helton and Vinnikov proved that every hyperbolic ternary form admits a symmetric determinantal representation via Riemann theta functions. In the case the algebraic curve of the hyperbolic ternary form is elliptic, the determinantal representation of the ternary form is formulated by using Weierstrass $\wp$-functions in place of Riemann theta functions. An example of this approach is given.

Key words. Determinantal representation, Elliptic curves, Weierstrass $\wp$-functions, Riemann theta functions.

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