

**Nobe, Atsushi**

**Group actions on the tropical Hesse pencil.** (English) Zbl 1362.14066  
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Summary: Addition of points on the tropical Hesse curve is realized via its intersections with two tropical lines. Then the addition formula for the points on the curve is reduced from the one for the level-three theta functions through the ultradiscretization procedure. In addition, a tropical analogue of the Hessian group  $G_{216}$ , the group of linear automorphisms acting on the Hesse pencil, is investigated; it is shown that the dihedral group  $\mathcal{D}_3$  of degree three is the group of linear automorphisms acting on the tropical Hesse pencil.

**MSC:**

14T05 Tropical geometry (MSC2010)  
14H52 Elliptic curves  
37P99 Arithmetic and non-Archimedean dynamical systems

Cited in 1 Document

**Keywords:**

Hesse pencil; Hessian group; QRT system; theta function; tropical curve; ultradiscretization

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