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Tropical geometry and Newton-Okounkov cones for Grassmannian of planes from compactifications. (English) Zbl 07473362
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Summary: We construct a family of compactifications of the affine cone of the Grassmannian variety of 2-planes. We show that both the tropical variety of the Plücker ideal and familiar valuations associated to the construction of Newton-Okounkov bodies for the Grassmannian variety can be recovered from these compactifications. In this way, we unite various perspectives for constructing toric degenerations of flag varieties.

MSC:
14M15 Grassmannians, Schubert varieties, flag manifolds
14M25 Toric varieties, Newton polyhedra, Okounkov bodies
14M27 Compactifications; symmetric and spherical varieties
14T05 Tropical geometry (MSC2010)
16G20 Representations of quivers and partially ordered sets

Keywords:
compactification; tropical geometry; Newton-Okounkov body

Full Text: DOI

References: