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Log Canonical Threshold of Vinberg (enveloping) monoid

The Vinberg enveloping monoid is an important example of a spherical variety, and by the Luna–Vust classification, its geometry is encoded by an associated colored cone. This colored cone governs $(G \times G)$ -equivariant embeddings and encodes boundary divisors, valuation data, and colors of the spherical variety.

The log canonical threshold (LCT) is a numerical invariant that measures the severity of singularities of a divisor relative to a fixed ambient log structure and plays a central role in the minimal model program.

In this setting, the LCT of the Vinberg enveloping monoid is studied via its colored cone. The main result relates the LCT in terms of root-theoretic and combinatorial data extracted from the colored cone of the Vinberg enveloping monoid.