## About the Cover

**The Canonical Decomposition Configuration**

This month's cover accompanies the article by Harm Derksen and Jerzy Weyman in this issue and amounts to an elaboration of figures in that article and also in *On the canonical decomposition of quiver representations* (Comp. Math. **133**) by the same two authors. It illustrates how the canonical decomposition of dimension vectors works in different geometrical regions of two-dimensional projective space. The interior of the ellipse (the Tits cone) represents imaginary roots. The nodes represent individual roots—yellow for ordinary real roots, red for Schur roots, blue for certain important imaginary roots. The darker outer triangles, whose vertices are Schur roots, are what Derksen and Weyman call compartments: inside one of these, the canonical decomposition involves exactly the triangle's vertices. In the lighter inner triangles the canonical decomposition is mixed real and imaginary. In the interior region the canonical decomposition is just a single imaginary root. The algorithm for generating the picture was explained to me by Derksen and is based on the principal theorem of *Exceptional sequences of representations of quivers* (Can. Math. Soc. Conf. Proc. **14**) by William Crawley-Boevey. This algorithm suitably modified seems also to be the most efficient way to generate Schur roots. Not all of the patterns seen in this diagram and similar ones for other quivers seem to be perfectly understood. One interesting problem suggested is that of describing the statistical distribution of real roots. For quivers with hyperbolic links the distribution seems to be a kind of Cantor dust spread around the Tits cone.

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