

The Polychromate and a Chord Diagram Polynomial

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Noble and Welsh defined the weighted polynomial of a graph. It permits the extension of the work of Chmutov, Duzhin and Lando to more general Tutte Grothendieck invariants. The U -polynomial is a specialization of the weighted polynomial when all the vertices have weight one. It corresponds to the original motivating situation of intersection graphs of chord diagrams of knots.

We show that the polychromate and the U -polynomial determine one another.