

Pensieve header: An implementation of the simplest invariant of Fiedler's arXiv:2211.10734, Polynomial Invariants Which Can Distinguish the Orientations of Knots.

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In[]:= Fi[Xi_,j_] := F[  

  {ti, tj, hi, hj}, (* the skeleton and boundary, going counterclockwise *)  

  bi aj, (* the linking matrix*)  

  <| (* For each closure, specified by the order in which tails (incl t∞) are visited,  

    a linking functional for the complement. *)  

  {ti, tj, t∞} →  

  x[c11 λi,i + c12 λi,j + c13 λi,∞ + c21 λj,i + c22 λj,j + c23 λj,∞ + c31 λ∞,i + c32 λ∞,j + c33 λ∞,∞],  

  {tj, ti, t∞} → 0  

  |>  

]  

  

In[]:= Fi[Xi,j]  

Out[]:= F[{ti, tj, hi, hj}, aj bi,  

  <| {ti, tj, t∞} → x[c11 λi,i + c12 λi,j + c13 λi,∞ + c21 λj,i + c22 λj,j + c23 λj,∞ + c31 λ∞,i +  

  c32 λ∞,j + c33 λ∞,∞], {tj, ti, t∞} → 0 |> ]
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