

Pensieve header: The Bedlewo and the Kashaev Programs.

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```
In[ ]:= Bed[K_, ω_] := Module[{t, r, XingsByArmpits, bends, faces, p, A, is},
  t = 1 - ω; r = t + t*;
  XingsByArmpits = List@@PD[K] /.
    x : X[i_, j_, k_, L_] => If[PositiveQ[x], X+[-i, j, k, -L], X_-[-j, k, L, -i]];
  bends = Times@@XingsByArmpits /. _[X][a_, b_, c_, d_] => pa,-d pb,-a pc,-b pd,-c;
  faces = bends //. px_,y_ py_,z_ => px,y,z;
  A = Table[0, Length@faces, Length@faces];
  Do[is = Position[faces, #][[1, 1]] & /@ List@@x;
    A[[is, is]] += If[Head[x] === X+,
      
$$\begin{pmatrix} -r & -t & 2t & t^* \\ -t^* & 0 & t^* & 0 \\ 2t^* & t & -r & -t^* \\ t & 0 & -t & 0 \end{pmatrix}, \begin{pmatrix} r & -t & -2t^* & t^* \\ -t^* & 0 & t^* & 0 \\ -2t & t & r & -t^* \\ t & 0 & -t & 0 \end{pmatrix}],
      {x, XingsByArmpits}];
  MatrixSignature[A];$$

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```
In[ ]:= Kas[K_, ω_] := Module[{u, v, XingsByArmpits, bends, faces, p, A, is},
  u = Re[ω1/2]; v = Re[ω];
  XingsByArmpits = List@@PD[K] /.
    x : X[i_, j_, k_, L_] => If[PositiveQ[x], X+[-i, j, k, -L], X_-[-j, k, L, -i]];
  bends = Times@@XingsByArmpits /. _[X][a_, b_, c_, d_] => pa,-d pb,-a pc,-b pd,-c;
  faces = bends //. px_,y_ py_,z_ => px,y,z;
  A = Table[0, Length@faces, Length@faces];
  Do[is = Position[faces, #][[1, 1]] & /@ List@@x;
    A[[is, is]] += If[Head[x] === X+,
      
$$\begin{pmatrix} v & u & 1 & u \\ u & 1 & u & 1 \\ 1 & u & v & u \\ u & 1 & u & 1 \end{pmatrix}, -\begin{pmatrix} v & u & 1 & u \\ u & 1 & u & 1 \\ 1 & u & v & u \\ u & 1 & u & 1 \end{pmatrix}],
      {x, XingsByArmpits}];
  (MatrixSignature[A] - Writhe[K]) / 2];$$

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In[ ]:= (Definition /@ {Bed, Kas}) >>
"C:\\drorbn\\AcademicPensieve\\Talks\\CMS-2112\\BedAndKas.m"
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