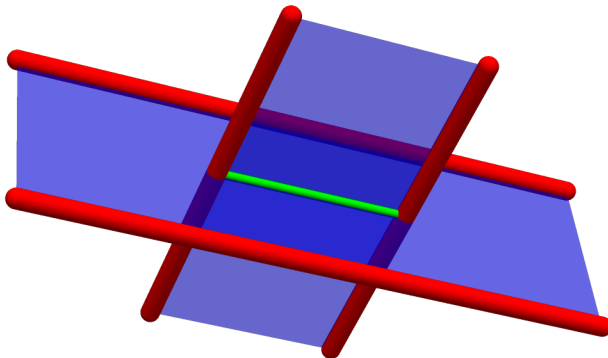


Pensieve header: Making the ribbon and clasp singularities pictures. See also pensieve://Projects/Killam-2017/. Continued pensieve://Projects/RibbonKnots/.

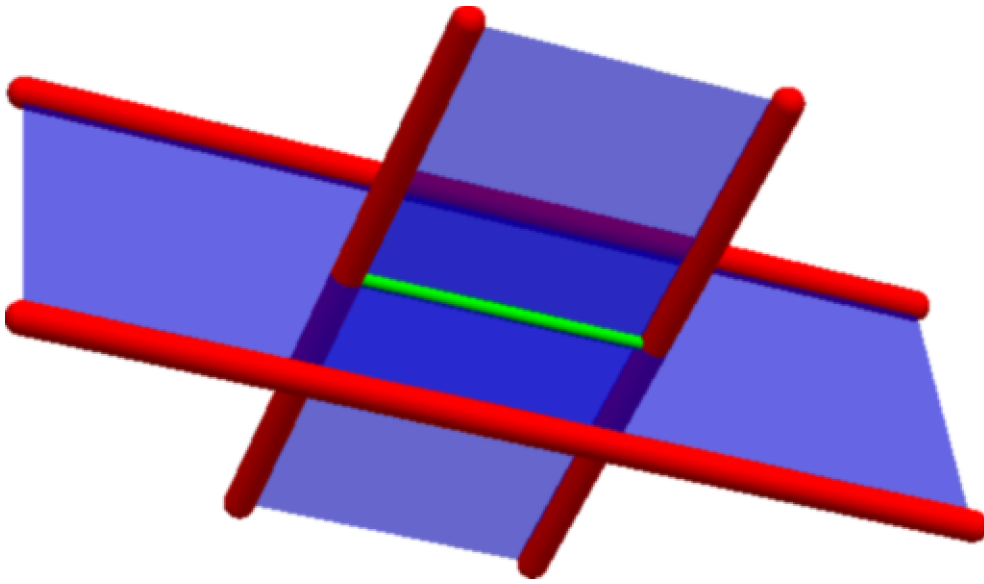
```
SetDirectory["C:\\drorbn\\AcademicPensieve\\2015-07\\PolyPoly"]
```

```
C:\\drorbn\\AcademicPensieve\\2015-07\\PolyPoly
```

```
ribbon = Graphics3D[
  {
    Green, Tube[{{-1, 0, 0}, {1, 0, 0}}, 0.05],
    Red,
    Tube[{{-3, 1, 0}, {3, 1, 0}}, 0.1], Tube[{{3, -1, 0}, {-3, -1, 0}}, 0.1],
    Tube[{{-1, 0, -2}, {-1, 0, 2}}, 0.1], Tube[{{1, 0, 2}, {1, 0, -2}}, 0.1],
    Opacity[0.6], Blue, EdgeForm[None],
    Polygon[{{-3, 1, 0}, {3, 1, 0}, {3, -1, 0}, {-3, -1, 0}}],
    Polygon[{{-1, 0, -2}, {-1, 0, 2}, {1, 0, 2}, {1, 0, -2}}]
  },
  Boxed → False, ViewPoint → {-1.05544, -2.48236, 2.04302},
  ViewVertical → {-0.355079, 0.320399, 1.36975}
]
```



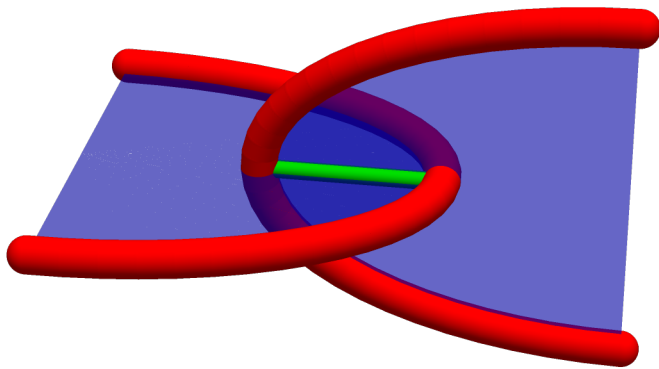
```
MakeImage["RibbonSingularity", ribbon, ImageSize -> 720]
```



```

dt =  $\pi / 32$ ;
 $\gamma_1[t\_]$  := {2 Cos[t] - 3/2, Sin[t], 0};
 $\gamma_2[t\_]$  := {3/2 - 2 Cos[t], 0, Sin[t]};
clasp = Graphics3D[
  {
    Green, Tube[{{-1/2, 0, 0}, {1/2, 0, 0}}, 0.05],
    Red,
    Tube[Table[ $\gamma_1[t]$ , {t, - $\pi/2$ ,  $\pi/2$ , dt}], 0.1],
    Tube[Table[ $\gamma_2[t]$ , {t, - $\pi/2$ ,  $\pi/2$ , dt}], 0.1],
    Opacity[0.6], Blue, EdgeForm[None],
    Table[Polygon[{{-3/2, 0, 0},  $\gamma_1[t]$ ,  $\gamma_1[t + dt]$ }], {t, - $\pi/2$ ,  $\pi/2 - dt$ , dt}],
    Table[Polygon[{{3/2, 0, 0},  $\gamma_2[t]$ ,  $\gamma_2[t + dt]$ }], {t, - $\pi/2$ ,  $\pi/2 - dt$ , dt}]
  ],
  Boxed  $\rightarrow$  False, ViewPoint  $\rightarrow$  {0.530012, -2.81796, 1.79672},
  ViewVertical  $\rightarrow$  {0.0301724, -0.099258, 1.45049}
]

```



```
MakeImage["ClaspSingularity", clasp, ImageSize  $\rightarrow$  720]
```

