

Pensieve header: The 1-smidgen invariant on 11-crossing knots.

```
SetDirectory["C:\\drorbn\\AcademicPensieve\\2016-09"];
<< OneSmidgen.m
```

Loading KnotTheory` version of September 6, 2014, 13:37:37.2841.
Read more at <http://katlas.org/wiki/KnotTheory>.

```
z[K_Knot] := (K /. tab) [[2]];
za[K_Knot] := z[K] [[1]];
zp1[K_Knot] := Factor[ $\frac{z[K] [[4]] /. c | u | w \to 0}{(t - 1) za[K]^2}$ ];
zp2[K_Knot] := Factor[ $\frac{\text{Coefficient}[z[K] [[4]], c]}{(t - 1/t) (-4 - t + t^2) za[K]^3}$ ];
```

```
t_ = t;
```

```
tab11 = Table[Echo[K → Timing[Z[K]]], {K, AllKnots[{11, 11]}}
```

KnotTheory: Loading precomputed data in DTCode4KnotsTo11`.

KnotTheory: The GaussCode to PD conversion was written by Siddarth Sankaran at the University of Toronto in the summer of 2005.

```
{Knot[11, Alternating, 1] →
{22.2813, E[-39 +  $\frac{2}{t^3} - \frac{12}{t^2} + \frac{30}{t} + 30t - 12t^2 + 2t^3$ , 0, 0, -35634032 + 12413007c +
 $\frac{28}{t^{12}} - \frac{96c}{t^{12}} - \frac{584}{t^{11}} + \frac{2088c}{t^{11}} + \frac{5760}{t^{10}} - \frac{21528c}{t^{10}} - \frac{35468}{t^9} + \frac{139536c}{t^9} + \frac{151328}{t^8} - \frac{635844c}{t^8} - \frac{466924}{t^7} +$ 
 $\frac{2157252c}{t^7} + \dots 74 \dots + \frac{6213699uw}{t^2} + \frac{2152854uw}{t} + 13837932t uw - 11716011t^2 uw +$ 
 $6367914t^3 uw - 1404351t^4 uw - 1175976t^5 uw + 1589172t^6 uw - 1043346t^7 uw +$ 
 $465252t^8 uw - 149376t^9 uw + 34380t^{10} uw - 5424t^{11} uw + 528t^{12} uw - 24t^{13} uw$ ],
\dots 550 \dots}, Knot[11, NonAlternating, 185] → {35.2656, E[\dots 1 \dots]}}
```

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```
tab11 >> tab11.m
```

```
Length[tab = Get["tab.m"] ∪ tab11]
```

801

```
Union[tab[[All, 2, 2, 4]] // Length
```

787

```
Length@Union[Jones /@ AllKnots[{0, 11}]]
```

KnotTheory: Loading precomputed data in Jones4Knots`.

KnotTheory: Loading precomputed data in Jones4Knots11`.

732

Length@Union[Kh /@ AllKnots[{0, 11}]]

KnotTheory: Loading precomputed data in Kh4Knots`.

KnotTheory: Loading precomputed data in Kh4Knots11`.

737

Length@Union[HOMFLYPT /@ AllKnots[{0, 11}]]

KnotTheory: Loading precomputed data in PD4Knots`.

KnotTheory: The HOMFLYPT program was written by Scott Morrison.

771

Length@Union[Alexander /@ AllKnots[{0, 11}]]

551

Length@Union[II[HOMFLYPT[#], Kh[#]] & /@ AllKnots[{0, 11}]]

772

Length@Union[II[HOMFLYPT[#], Kh[#]] & /@ AllKnots[{0, 10}]]

249