

Pensieve header: Fixing many many signs for SnG.

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SetDirectory["C:\\drorbn\\AcademicPensieve\\2016-03"];
<< SnG.m

hmhts[u_] :=
  (u // hm[2, 1, 1] // hts[1, 4]) - (u // hts[1, 4] // hts[2, 4] // hm[2, 1, 1]);
UU[δaa[f37[b4, b5], 4, 1, 4, 2]] // hmhts
UU[0]

ε0 = ε8 = ε14 = 1; ε16 = -1;

tmhts[u_] :=
  (u // tm[1, 2, 1] // hts[4, 1]) - (u // hts[4, 1] // hts[4, 2] // tm[1, 2, 1]);
tmhts@UU[a[f2[b1, b2, b3], 1, 4]]
UU[0]

ε7 = ε13;

tmhts[u_] :=
  (u // tm[1, 2, 1] // hts[4, 1]) - (u // hts[4, 1] // hts[4, 2] // tm[1, 2, 1]);
tmhts@UU[a[f6[b1, b2, b3], 2, 4]]
UU[0]

ε13 = ε11;

tmhts[u_] :=
  (u // tm[1, 2, 1] // hts[4, 1]) - (u // hts[4, 1] // hts[4, 2] // tm[1, 2, 1]);
tmhts@UU[δaa[f32[b1, b2, b3], 1, 4, 2, 4]]
UU[0]

ε3 = -1;

tmhts[u_] :=
  (u // tm[2, 1, 1] // hts[4, 1]) - (u // hts[4, 2] // hts[4, 1] // tm[2, 1, 1]);
tmhts@UU[δaa[f32[b1, b2, b3], 1, 4, 2, 4]]
UU[0]

ε15 = ε1 = 1;

hmhts[u_] :=
  (u // hm[1, 2, 1] // hts[1, 4]) - (u // hts[2, 4] // hts[1, 4] // hm[1, 2, 1]);
hmhts@UU[ca[f24[b4, b5], 2, 4, 1]]
UU[0]

ε12 = ε10;

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hmhts[u_] :=
  (u // hm[2, 1, 1] // hts[1, 4]) - (u // hts[1, 4] // hts[2, 4] // hm[2, 1, 1]);
hmhts@UU[δaa[f43[b4, b5], 4, 1, 5, 2]]
UU[0]

ε2 = 1;

tbAS[u_, v_] := tb[0][u, v] + tb[0][v, u];
tbAS@@{UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b0, b2], 0, 3]]}
UU[0]

ε41 = ε40;

tbAS[u_, v_] := tb[0][u, v] + tb[0][v, u];
tbAS@@{UU[a[f2[b0, b1], 0, 1]], UU[a[g6[b0, b2], 2, 3]]}
UU[0]

ε42 = ε40;

hbJacobi[u_, v_, w_] :=
  hb[0][u, hb[0][v, w]] + hb[0][v, hb[0][w, u]] + hb[0][w, hb[0][u, v]];
hbJacobi@@{UU[a[f2[b1, b2], 1, 0]], UU[a[g2[b3, b4], 3, 0]], UU[δa[h3[b5, b6], 5, 0]]}
UU[0]

ε20 = ε18;

hbJacobi[u_, v_, w_] :=
  hb[0][u, hb[0][v, w]] + hb[0][v, hb[0][w, u]] + hb[0][w, hb[0][u, v]];
hbJacobi@@{UU[a[f2[b1, b2], 1, 0]], UU[a[g2[b3, b4], 3, 0]], UU[c[h11[b5, b6], 0]]}
UU[0]

ε18 = ε19 ε48;

hbJacobi[u_, v_, w_] :=
  hb[0][u, hb[0][v, w]] + hb[0][v, hb[0][w, u]] + hb[0][w, hb[0][u, v]];
hbJacobi@@{UU[a[f2[b1, b2], 1, 0]], UU[a[g2[b3, b4], 3, 0]],
  UU[ca[h13[b5, b6], 0, 5, 0]]}
UU[0]

ε22 = ε19 ε48;

ε24 = ε19 ε48;

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hbJacobi[u_, v_, w_] :=
  hb[0][u, hb[0][v, w]] + hb[0][v, hb[0][w, u]] + hb[0][w, hb[0][u, v]];
hbJacobi @@ {UU[δaa[f28[b1, b2], 2, 0, 2, 1]],
  UU[a[g6[b3, b4], 4, 0]], UU[a[h6[b5, b6], 6, 0]]}
UU[0]

ε21 = ε19;

ε48 = ε4;

hbJacobi[u_, v_, w_] :=
  hb[0][u, hb[0][v, w]] + hb[0][v, hb[0][w, u]] + hb[0][w, hb[0][u, v]];
hbJacobi @@ {UU[a[f2[b1, b2], 1, 0]], UU[a[g2[b3, b4], 3, 0]],
  UU[ca[h13[b5, b6], 0, 5, 0]]}
UU[0]

ε23 = ε4 ε19;

thhJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][u, hb[0][v, w]] + hb[0][thb[0, 0][u, v], w] + thb[0, 0][thb[0, 0][u, v],
    w] + hb[0][v, thb[0, 0][u, w]] - thb[0, 0][thb[0, 0][u, w], v]
];
thhJacobi @@ {UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b2, b3], 2, 0]], UU[a[h2[b4, b5], 4, 0]]}
UU[0]

ε37 = ε25;

ε25 = ε4 ε19;

ε46 = ε45;

ε26 = ε4 ε44;

ε36 = ε4 ε19;

thhJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][u, hb[0][v, w]] + hb[0][thb[0, 0][u, v], w] + thb[0, 0][thb[0, 0][u, v],
    w] + hb[0][v, thb[0, 0][u, w]] - thb[0, 0][thb[0, 0][u, w], v]
];
thhJacobi @@
  {UU[δaa[f23[b0, b1], 0, 2, 0, 2]], UU[a[g6[b2, b3], 3, 0]], UU[a[h6[b4, b5], 5, 0]]}
UU[
  δaa[b0 b3 ε4 ε19 f23[b0, b1] g6[b2, b3] h6[b4, b5] - b0 b3 ε38 f23[b0, b1] g6[b2, b3] h6[b4, b5],
  0, 2, 5, 2] + δaa[-b0 b5 ε4 ε19 f23[b0, b1] g6[b2, b3] h6[b4, b5] +
  b0 b5 ε38 f23[b0, b1] g6[b2, b3] h6[b4, b5], 0, 2, 3, 2]]

ε35 = ε4 ε19;

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thhJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][u, hb[0][v, w]] + hb[0][thb[0, 0][u, v], w] + thb[0, 0][thb[0, 0][u, v],
    w] + hb[0][v, thb[0, 0][u, w]] - thb[0, 0][thb[0, 0][u, w], v]
];
thhJacobi@@{UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b2, b3], 2, 0]], UU[c[h11[b4, b5], 0]]}
UU[0]

e28 = e4 e27;

thhJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][u, hb[0][v, w]] + hb[0][thb[0, 0][u, v], w] + thb[0, 0][thb[0, 0][u, v],
    w] + hb[0][v, thb[0, 0][u, w]] - thb[0, 0][thb[0, 0][u, w], v]
];
thhJacobi@@
{UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b2, b3], 2, 0]], UU[ca[h13[b4, b5], 0, 4, 0]]}
UU[0]

e33 = e30;
e32 = e4 e29;
e34 = e4 e31;

thhJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][u, hb[0][v, w]] + hb[0][thb[0, 0][u, v], w] + thb[0, 0][thb[0, 0][u, v],
    w] + hb[0][v, thb[0, 0][u, w]] - thb[0, 0][thb[0, 0][u, w], v]
];
thhJacobi@@
{UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b2, b3], 2, 0]], UU[deltaa[h21[b4, b5], 4, 0, 4, 0]]}
UU[0]

e31 = e27;
e30 = e4 e29;

tthJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][tb[0][u, v], w] + tb[0][thb[0, 0][u, w], v] - thb[0, 0][v,
    thb[0, 0][u, w]] + tb[0][u, thb[0, 0][v, w]] + thb[0, 0][u, thb[0, 0][v, w]]
];
tthJacobi@@{UU[beta[f1[b0, b1]]], UU[a[g2[b0, b2], 0, 3]], UU[a[h2[b3, b4], 3, 0]]}
UU[0]

e43 = e19 e39 / e27;

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tthJacobi[u_, v_, w_] := Plus[
  -thb[0, 0][tb[0][u, v], w] + tb[0][thb[0, 0][u, w], v] - thb[0, 0][v,
    thb[0, 0][u, w]] + tb[0][u, thb[0, 0][v, w]] + thb[0, 0][u, thb[0, 0][v, w]]
];
tthJacobi@@{UU[a[f2[b0, b1], 0, 1]], UU[a[g2[b0, b2], 0, 3]], UU[a[h2[b3, b4], 3, 0]]}
UU[0]

e40 = e17 / e4;
e17 = e4 e29 e44 / e19;
e38 = e19;
e4 = 1;
dbAS[u_, v_] := db[0][u, v] + db[0][v, u];
dbAS@@{UU[a[f2[b0, b1, b2], 0, 0]], UU[a[g2[b0, b3, b4], 0, 0]]}
UU[0]

e11 = e10 e29 e44 / e19^2;
dbJacobi[u_, v_, w_] :=
  db[0][u, db[0][v, w]] + db[0][v, db[0][w, u]] + db[0][w, db[0][u, v]];
dbJacobi@@{UU[a[f2[b0, b1, b2], 0, 0]], UU[a[g4[b0, b3, b4], 0, 3]],
  UU[a[h8[b0, b5, b6], 5, 0]]}
UU[0]

e29 = e19;
e47 = e10 e44;
e45 = e44;
e27 = e19;
e10 = 1;
dbdm[u_, v_] := Plus[
  db[1][u, dσ[2, -2][v]] // dm[2, -2, 2],
  -db[1][u, dσ[2, -2][v]] // dm[-2, 2, 2],
  -db[2][u, dσ[1, -1][v]] // dm[1, -1, 1],
  db[2][u, dσ[1, -1][v]] // dm[-1, 1, 1]
];
dbdm@@{UU[a[f2[b1, b2, b3], 1, 1]], UU[a[g4[b1, b2, b4], 1, 2]]}
UU[0]

e9 = 1;

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dbdm[u_, v_] := Plus[
  db[1][u, dσ[2, -2][v]] // dm[2, -2, 2],
  -db[1][u, dσ[2, -2][v]] // dm[-2, 2, 2],
  -db[2][u, dσ[1, -1][v]] // dm[1, -1, 1],
  db[2][u, dσ[1, -1][v]] // dm[-1, 1, 1]
];
dbdm@@{UU[a[f4[b1, b2, b3], 1, 2]], UU[a[g8[b1, b2, b4], 2, 1]]}
UU[0]

ε44 = -ε6 ε19;

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bb4 = bb[1, 2, 3, 4]; bbAS[u_, v_] := bb4[u, v] + bb4[v, u];
bbAS@@{UU[a[f2[b1, b2], 1, 1]], UU[a[g6[b1, b2], 2, 1]]}
UU[0]

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Table[i → ε_i, {i, 48}]

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{1 → 1, 2 → 1, 3 → -1, 4 → 1, 5 → ε5, 6 → ε6, 7 → -ε6, 8 → 1, 9 → 1, 10 → 1,
 11 → -ε6, 12 → 1, 13 → -ε6, 14 → 1, 15 → 1, 16 → -1, 17 → -ε6 ε19, 18 → ε19,
 19 → ε19, 20 → ε19, 21 → ε19, 22 → ε19, 23 → ε19, 24 → ε19, 25 → ε19, 26 → -ε6 ε19,
 27 → ε19, 28 → ε19, 29 → ε19, 30 → ε19, 31 → ε19, 32 → ε19, 33 → ε19, 34 → ε19,
 35 → ε19, 36 → ε19, 37 → ε19, 38 → ε19, 39 → ε39, 40 → -ε6 ε19, 41 → -ε6 ε19,
 42 → -ε6 ε19, 43 → ε39, 44 → -ε6 ε19, 45 → -ε6 ε19, 46 → -ε6 ε19, 47 → -ε6 ε19, 48 → 1}

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