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Let $R_{0,\underline{k}} = 0$ unless $R_{0,\underline{k}} \in \{(R_{0,(0,0)}, R_{0,(1,0)}, R_{0,(-1,0)}, R_{0,(0,1)}, R_{0,(0,-1)}\}$. These initial values are a plus shape, and each iteration remains zero outside of an expanding plus: $R_{n,(i,j)} = 0$ if $|i| + |j| > n + 1$. Some selected possibly nonzero values are

$$R_{n,(0,0)} = \frac{1}{n!} R_{0,(0,0)}^{n+1},$$

$$R_{n,(0,n+1)} = \frac{(n+1)^n}{n!} R_{0,(0,1)}^{n+1}.$$

What follows is a computation of the recursion for $R_{n+1,\underline{k}}$ when the initial conditions are ‘1D’. That is, all $R_{0,\underline{k}}$ are zero except possibly $R_{0,0}$, $R_{0,(1,0)}$ and $R_{0,(-1,0)}$. Supressing the second coordinate in the indices (that is, $R_{0,(a,b)} = R_{0,a}$), we write the nonzero $R_{1,\underline{k}}, R_{2,\underline{k}}, \dots, R_{10,\underline{k}}$.

Notice that

$$R_{n,n+1} = \frac{(n+1)^n}{n!} R_{0,1}^{n+1}.$$

Notice that

$$R_{n,n} = \left(\frac{n^{n-1}(n+1)}{2(n-1)!} R_{0,1} - \frac{4\pi^2 n}{(n-1)!} C_n \right) R_{0,0}^n$$

for some C_n . And $(C_i)_{i=1}^{10}$ is

$$(1, 3, 17, 142, 1569, 21576, 355081, 6805296, 148869153, 3660215680)$$

Notice that $R_{n,1}$ is a sum of powers of $R_{0,0}$ times sums of powers of $R_{0,-1} R_{0,1}$

$$\begin{aligned} R_{1,-2} &= 2R_{0,-1}^2 \\ R_{1,-1} &= R_{0,-1} (R_{0,0} - 4\pi^2) \\ R_{1,0} &= R_{0,0}^2 \\ R_{1,1} &= (R_{0,0} - 4\pi^2) R_{0,1} \\ R_{1,2} &= 2R_{0,1}^2 \end{aligned}$$

$$\begin{aligned}
R_{2,-3} &= \frac{9}{2} R_{0,-1}^3 \\
R_{2,-2} &= 3 R_{0,-1}^2 (R_{0,0} - 8\pi^2) \\
R_{2,-1} &= \frac{1}{2} R_{0,-1} ((R_{0,0} - 4\pi^2)^2 - R_{0,-1} R_{0,1}) \\
R_{2,0} &= \frac{R_{0,0}^3}{2} \\
R_{2,1} &= \frac{1}{2} R_{0,1} ((R_{0,0} - 4\pi^2)^2 - R_{0,-1} R_{0,1}) \\
R_{2,2} &= 3 (R_{0,0} - 8\pi^2) R_{0,1}^2 \\
R_{2,3} &= \frac{9 R_{0,1}^3}{2}
\end{aligned}$$

$$\begin{aligned}
R_{3,-4} &= \frac{32}{3} R_{0,-1}^4 \\
R_{3,-3} &= 3R_{0,-1}^3 (3R_{0,0} - 34\pi^2) \\
R_{3,-2} &= \frac{1}{3} R_{0,-1}^2 (7R_{0,0}^2 - 104\pi^2 R_{0,0} - 8R_{0,-1} R_{0,1} + 448\pi^4) \\
R_{3,-1} &= \frac{1}{6} R_{0,-1} (R_{0,0}^3 - 6R_{0,-1} R_{0,1} R_{0,0} + 48\pi^4 R_{0,0} - 12\pi^2 (R_{0,0}^2 - 3R_{0,-1} R_{0,1}) - 64\pi^6) \\
R_{3,0} &= \frac{R_{0,0}^4}{6} \\
R_{3,1} &= \frac{1}{6} R_{0,1} (R_{0,0}^3 - 6R_{0,-1} R_{0,1} R_{0,0} + 48\pi^4 R_{0,0} - 12\pi^2 (R_{0,0}^2 - 3R_{0,-1} R_{0,1}) - 64\pi^6) \\
R_{3,2} &= \frac{1}{3} R_{0,1}^2 (7R_{0,0}^2 - 104\pi^2 R_{0,0} - 8R_{0,-1} R_{0,1} + 448\pi^4) \\
R_{3,3} &= 3 (3R_{0,0} - 34\pi^2) R_{0,1}^3 \\
R_{3,4} &= \frac{32R_{0,1}^4}{3}
\end{aligned}$$

$$\begin{aligned}
R_{4,-5} &= \frac{625}{24} R_{0,-1}^5 \\
R_{4,-4} &= -\frac{16}{3} R_{0,-1}^4 (71\pi^2 - 5R_{0,0}) \\
R_{4,-3} &= \frac{3}{8} R_{0,-1}^3 (25R_{0,0}^2 - 520\pi^2 R_{0,0} - 27R_{0,-1}R_{0,1} + 3232\pi^4) \\
R_{4,-2} &= \frac{1}{12} R_{0,-1}^2 (15R_{0,0}^3 - 80R_{0,-1}R_{0,1}R_{0,0} + 2496\pi^4 R_{0,0} - 8\pi^2 (39R_{0,0}^2 - 88R_{0,-1}R_{0,1}) - 7680\pi^6) \\
R_{4,-1} &= \frac{1}{24} R_{0,-1} (R_{0,0}^4 - 25R_{0,-1}R_{0,1}R_{0,0}^2 - 256\pi^6 R_{0,0} + 2R_{0,-1}^2 R_{0,1}^2 + 32\pi^4 (3R_{0,0}^2 - 29R_{0,-1}R_{0,1}) - 8\pi^2 (2 \\
R_{4,0} &= \frac{R_{0,0}^5}{24} \\
R_{4,1} &= \frac{1}{24} R_{0,1} (R_{0,0}^4 - 25R_{0,-1}R_{0,1}R_{0,0}^2 - 256\pi^6 R_{0,0} + 2R_{0,-1}^2 R_{0,1}^2 + 32\pi^4 (3R_{0,0}^2 - 29R_{0,-1}R_{0,1}) - 8\pi^2 (2 \\
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R_{4,3} &= \frac{3}{8} R_{0,1}^3 (25R_{0,0}^2 - 520\pi^2 R_{0,0} - 27R_{0,-1}R_{0,1} + 3232\pi^4) \\
R_{4,4} &= -\frac{16}{3} (71\pi^2 - 5R_{0,0}) R_{0,1}^4 \\
R_{4,5} &= \frac{625R_{0,1}^5}{24}
\end{aligned}$$

$$\begin{aligned}
R_{5,-6} &= \frac{324}{5} R_{0,-1}^6 \\
R_{5,-5} &= \frac{5}{8} R_{0,-1}^5 (125 R_{0,0} - 2092 \pi^2) \\
R_{5,-4} &= \frac{8}{15} R_{0,-1}^4 (65 R_{0,0}^2 - 1696 \pi^2 R_{0,0} - 64 R_{0,-1} R_{0,1} + 13280 \pi^4) \\
R_{5,-3} &= \frac{3}{40} R_{0,-1}^3 (45 (2 R_{0,0}^2 - 9 R_{0,-1} R_{0,1}) R_{0,0} + 29536 \pi^4 R_{0,0} - 44 \pi^2 (59 R_{0,0}^2 - 105 R_{0,-1} R_{0,1}) - 133760 \pi^6) \\
R_{5,-2} &= \frac{1}{60} R_{0,-1}^2 (31 R_{0,0}^4 - 520 R_{0,-1} R_{0,1} R_{0,0}^2 - 51712 \pi^6 R_{0,0} + 80 R_{0,-1}^2 R_{0,1}^2 + 64 \pi^4 (141 R_{0,0}^2 - 640 R_{0,-1} R_{0,1})) \\
R_{5,-1} &= \frac{1}{120} R_{0,-1} (R_{0,0}^5 - 90 R_{0,-1} R_{0,1} R_{0,0}^3 + 30 R_{0,-1}^2 R_{0,1}^2 R_{0,0} + 1280 \pi^8 R_{0,0} - 640 \pi^6 (R_{0,0}^2 - 33 R_{0,-1} R_{0,1})) \\
R_{5,0} &= \frac{R_{0,0}^6}{120} \\
R_{5,1} &= \frac{1}{120} R_{0,1} (R_{0,0}^5 - 90 R_{0,-1} R_{0,1} R_{0,0}^3 + 30 R_{0,-1}^2 R_{0,1}^2 R_{0,0} + 1280 \pi^8 R_{0,0} - 640 \pi^6 (R_{0,0}^2 - 33 R_{0,-1} R_{0,1})) \\
R_{5,2} &= \frac{1}{60} R_{0,1}^2 (31 R_{0,0}^4 - 520 R_{0,-1} R_{0,1} R_{0,0}^2 - 51712 \pi^6 R_{0,0} + 80 R_{0,-1}^2 R_{0,1}^2 + 64 \pi^4 (141 R_{0,0}^2 - 640 R_{0,-1} R_{0,1})) \\
R_{5,3} &= \frac{3}{40} R_{0,1}^3 (45 (2 R_{0,0}^2 - 9 R_{0,-1} R_{0,1}) R_{0,0} + 29536 \pi^4 R_{0,0} - 44 \pi^2 (59 R_{0,0}^2 - 105 R_{0,-1} R_{0,1}) - 133760 \pi^6) \\
R_{5,4} &= \frac{8}{15} R_{0,1}^4 (65 R_{0,0}^2 - 1696 \pi^2 R_{0,0} - 64 R_{0,-1} R_{0,1} + 13280 \pi^4) \\
R_{5,5} &= \frac{5}{8} (125 R_{0,0} - 2092 \pi^2) R_{0,1}^5 \\
R_{5,6} &= \frac{324 R_{0,1}^6}{5}
\end{aligned}$$

$$\begin{aligned}
R_{6,-7} &= \frac{117649}{720} R_{0,-1}^7 \\
R_{6,-6} &= -\frac{6}{5} R_{0,-1}^6 (3596\pi^2 - 189R_{0,0}) \\
R_{6,-5} &= \frac{5}{144} R_{0,-1}^5 (3500R_{0,0}^2 - 108112\pi^2 R_{0,0} - 3125R_{0,-1}R_{0,1} + 998960\pi^4) \\
R_{6,-4} &= \frac{8}{45} R_{0,-1}^4 (7(25R_{0,0}^2 - 96R_{0,-1}R_{0,1}) R_{0,0} + 90888\pi^4 R_{0,0} + \pi^2 (9288R_{0,-1}R_{0,1} - 6339R_{0,0}^2) - 521920\pi^6) \\
R_{6,-3} &= \frac{1}{80} R_{0,-1}^3 (301R_{0,0}^4 - 3780R_{0,-1}R_{0,1}R_{0,0}^2 - 1404288\pi^6 R_{0,0} + 729R_{0,-1}^2 R_{0,1}^2 + 16\pi^4 (10591R_{0,0}^2 - 3130R_{0,-1}R_{0,1}) \\
R_{6,-2} &= -\frac{1}{360} R_{0,-1}^2 (R_{0,0}^2 (-995328\pi^8 R_{0,0} + 512\pi^6 (423R_{0,0}^2 - 3920R_{0,-1}R_{0,1}) - 576\pi^4 (47R_{0,0}^3 - 1056R_{0,-1}R_{0,1}) \\
R_{6,-1} &= \frac{1}{720} R_{0,-1} (R_{0,0}^6 - 301R_{0,-1}R_{0,1}R_{0,0}^4 + 280R_{0,-1}^2 R_{0,1}^2 R_{0,0}^2 - 6144\pi^{10} R_{0,0} - 5R_{0,-1}^3 R_{0,1}^3 + 256\pi^8 (15R_{0,0}^2 - 3130R_{0,-1}R_{0,1}) \\
R_{6,0} &= \frac{R_{0,0}^7}{720} \\
R_{6,1} &= \frac{1}{720} R_{0,1} (R_{0,0}^6 - 301R_{0,-1}R_{0,1}R_{0,0}^4 + 280R_{0,-1}^2 R_{0,1}^2 R_{0,0}^2 - 6144\pi^{10} R_{0,0} - 5R_{0,-1}^3 R_{0,1}^3 + 256\pi^8 (15R_{0,0}^2 - 3130R_{0,-1}R_{0,1}) \\
R_{6,2} &= -\frac{1}{360} R_{0,1}^2 (-995328\pi^8 R_{0,0} + 512\pi^6 (423R_{0,0}^2 - 3920R_{0,-1}R_{0,1}) - 576\pi^4 (47R_{0,0}^3 - 1056R_{0,-1}R_{0,1}) \\
R_{6,3} &= \frac{1}{80} R_{0,1}^3 (301R_{0,0}^4 - 3780R_{0,-1}R_{0,1}R_{0,0}^2 - 1404288\pi^6 R_{0,0} + 729R_{0,-1}^2 R_{0,1}^2 + 16\pi^4 (10591R_{0,0}^2 - 3130R_{0,-1}R_{0,1}) \\
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R_{6,5} &= \frac{5}{144} R_{0,1}^5 (3500R_{0,0}^2 - 108112\pi^2 R_{0,0} - 3125R_{0,-1}R_{0,1} + 998960\pi^4) \\
R_{6,6} &= -\frac{6}{5} (3596\pi^2 - 189R_{0,0}) R_{0,1}^6 \\
R_{6,7} &= \frac{117649R_{0,1}^7}{720}
\end{aligned}$$

$$\begin{aligned}
R_{7,-8} &= \frac{131072}{315} R_{0,-1}^8 \\
R_{7,-7} &= -\frac{7}{180} R_{0,-1}^7 (355081\pi^2 - 16807R_{0,0}) \\
R_{7,-6} &= \frac{12}{35} R_{0,-1}^6 (1197R_{0,0}^2 - 42248\pi^2 R_{0,0} - 972R_{0,-1}R_{0,1} + 443632\pi^4) \\
R_{7,-5} &= \frac{5}{504} R_{0,-1}^5 (9599304\pi^4 R_{0,0} + \pi^2 (702730R_{0,-1}R_{0,1} - 564912R_{0,0}^2) + 4375 (3R_{0,0}^3 - 10R_{0,-1}R_{0,0}R_{0,1} \\
R_{7,-4} &= \frac{4}{315} R_{0,-1}^4 (-15927936\pi^6 R_{0,0} + 16\pi^4 (94851R_{0,0}^2 - 207704R_{0,-1}R_{0,1}) + \pi^2 (444592R_{0,-1}R_{0,0}R_{0,1} - \\
R_{7,-3} &= \frac{1}{280} R_{0,-1}^3 (30466048\pi^8 R_{0,0} - 32\pi^6 (140687R_{0,0}^2 - 694785R_{0,-1}R_{0,1}) + 24\pi^4 (16426R_{0,0}^3 - 211521R_{0,-1}R_{0,0}R_{0,1} \\
R_{7,-2} &= \frac{R_{0,-1}^2 (127R_{0,0}^6 - 13608R_{0,-1}R_{0,1}R_{0,0}^4 + 21280R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 18382848\pi^{10}R_{0,0} - 896R_{0,-1}^3R_{0,1}^3 + \\
R_{7,-1} &= \frac{R_{0,-1} (R_{0,0}^7 - 966R_{0,-1}R_{0,1}R_{0,0}^5 + 2100R_{0,-1}^2R_{0,1}^2R_{0,0}^3 - 140R_{0,-1}^3R_{0,1}^3R_{0,0} + 28672\pi^{12}R_{0,0} - 21504 \\
R_{7,0} &= \frac{R_{0,0}^8}{5040} \\
R_{7,1} &= \frac{R_{0,1} (R_{0,0}^7 - 966R_{0,-1}R_{0,1}R_{0,0}^5 + 2100R_{0,-1}^2R_{0,1}^2R_{0,0}^3 - 140R_{0,-1}^3R_{0,1}^3R_{0,0} + 28672\pi^{12}R_{0,0} - 21504 \\
R_{7,2} &= \frac{R_{0,1}^2 (127R_{0,0}^6 - 13608R_{0,-1}R_{0,1}R_{0,0}^4 + 21280R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 18382848\pi^{10}R_{0,0} - 896R_{0,-1}^3R_{0,1}^3 + \\
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R_{7,4} &= \frac{4}{315} R_{0,1}^4 (-15927936\pi^6 R_{0,0} + 16\pi^4 (94851R_{0,0}^2 - 207704R_{0,-1}R_{0,1}) + \pi^2 (444592R_{0,-1}R_{0,0}R_{0,1} - \\
R_{7,5} &= \frac{5}{504} R_{0,1}^5 (9599304\pi^4 R_{0,0} + \pi^2 (702730R_{0,-1}R_{0,1} - 564912R_{0,0}^2) + 4375 (3R_{0,0}^3 - 10R_{0,-1}R_{0,0}R_{0,1}) \\
R_{7,6} &= \frac{12}{35} R_{0,1}^6 (1197R_{0,0}^2 - 42248\pi^2 R_{0,0} - 972R_{0,-1}R_{0,1} + 443632\pi^4) \\
R_{7,7} &= -\frac{7}{180} (355081\pi^2 - 16807R_{0,0}) R_{0,1}^7 \\
R_{7,8} &= \frac{131072R_{0,1}^8}{315}
\end{aligned}$$

$$\begin{aligned}
R_{8,-9} &= \frac{4782969R_{0,-1}^9}{4480} \\
R_{8,-8} &= -\frac{32}{35}R_{0,-1}^8 (47259\pi^2 - 2048R_{0,0}) \\
R_{8,-7} &= \frac{7R_{0,-1}^7 (-43686768\pi^2 R_{0,0} + 16807 (66R_{0,0}^2 - 49R_{0,-1}R_{0,1}) + 508861248\pi^4)}{5760} \\
R_{8,-6} &= \frac{3}{70}R_{0,-1}^6 (243 (49R_{0,0}^2 - 144R_{0,-1}R_{0,1}) R_{0,0} + 11415504\pi^4 R_{0,0} + \pi^2 (635232R_{0,-1}R_{0,1} - 588072R_{0,0}^2)) \\
R_{8,-5} &= \frac{5R_{0,-1}^5 (-2737622016\pi^6 R_{0,0} + 192\pi^4 (1144861R_{0,0}^2 - 1989715R_{0,-1}R_{0,1}) - 528\pi^2 (17651R_{0,0}^3 - 82912R_{0,-1}R_{0,1}^2))}{8064} \\
R_{8,-4} &= \frac{1}{105}R_{0,-1}^4 (208953344\pi^8 R_{0,0} - 64\pi^6 (378787R_{0,0}^2 - 1243424R_{0,-1}R_{0,1}) + 64\pi^4 (26180R_{0,0}^3 - 231103R_{0,-1}R_{0,1}^2)) \\
R_{8,-3} &= \frac{R_{0,-1}^3 (3025R_{0,0}^6 - 187677R_{0,-1}R_{0,1}R_{0,0}^4 + 336798R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 2511417344\pi^{10}R_{0,0} - 20412R_{0,-1}^3R_{0,1}^3)}{5760} \\
R_{8,-2} &= \frac{R_{0,-1}^2 (85R_{0,0}^7 - 20720R_{0,-1}R_{0,1}R_{0,0}^5 + 70560R_{0,-1}^2R_{0,1}^2R_{0,0}^3 - 10752R_{0,-1}^3R_{0,1}^3R_{0,0} + 110362624\pi^{12}R_{0,0})}{5760} \\
R_{8,-1} &= \frac{R_{0,-1} (R_{0,0}^8 - 3025R_{0,-1}R_{0,1}R_{0,0}^6 + 13902R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 2310R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 131072\pi^{14}R_{0,0} + 110362624\pi^{12}R_{0,-1}R_{0,1}^2)}{40320} \\
R_{8,0} &= \frac{R_{0,0}^9}{40320} \\
R_{8,1} &= \frac{R_{0,1} (R_{0,0}^8 - 3025R_{0,-1}R_{0,1}R_{0,0}^6 + 13902R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 2310R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 131072\pi^{14}R_{0,0} + 110362624\pi^{12}R_{0,-1}R_{0,1}^2)}{40320} \\
R_{8,2} &= \frac{R_{0,1}^2 (85R_{0,0}^7 - 20720R_{0,-1}R_{0,1}R_{0,0}^5 + 70560R_{0,-1}^2R_{0,1}^2R_{0,0}^3 - 10752R_{0,-1}^3R_{0,1}^3R_{0,0} + 110362624\pi^{12}R_{0,0})}{5760} \\
R_{8,3} &= \frac{R_{0,1}^3 (3025R_{0,0}^6 - 187677R_{0,-1}R_{0,1}R_{0,0}^4 + 336798R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 2511417344\pi^{10}R_{0,0} - 20412R_{0,-1}^3R_{0,1}^3)}{5760} \\
R_{8,4} &= \frac{1}{105}R_{0,1}^4 (208953344\pi^8 R_{0,0} - 64\pi^6 (378787R_{0,0}^2 - 1243424R_{0,-1}R_{0,1}) + 64\pi^4 (26180R_{0,0}^3 - 231103R_{0,-1}R_{0,1}^2)) \\
R_{8,5} &= \frac{5R_{0,1}^5 (-2737622016\pi^6 R_{0,0} + 192\pi^4 (1144861R_{0,0}^2 - 1989715R_{0,-1}R_{0,1}) - 528\pi^2 (17651R_{0,0}^3 - 82912R_{0,-1}R_{0,1}^2))}{8064} \\
R_{8,6} &= \frac{3}{70}R_{0,1}^6 (243 (49R_{0,0}^2 - 144R_{0,-1}R_{0,1}) R_{0,0} + 11415504\pi^4 R_{0,0} + \pi^2 (635232R_{0,-1}R_{0,1} - 588072R_{0,0}^2)) \\
R_{8,7} &= \frac{7R_{0,1}^7 (-43686768\pi^2 R_{0,0} + 16807 (66R_{0,0}^2 - 49R_{0,-1}R_{0,1}) + 508861248\pi^4)}{5760} \\
R_{8,8} &= -\frac{32}{35} (47259\pi^2 - 2048R_{0,0}) R_{0,1}^8 \\
R_{8,9} &= \frac{4782969R_{0,1}^9}{4480}
\end{aligned}$$

$$\begin{aligned}
R_{9,-10} &= \frac{1562500}{567} R_{0,-1}^{10} \\
R_{9,-9} &= -\frac{9R_{0,-1}^9 (66164068\pi^2 - 2657205R_{0,0})}{4480} \\
R_{9,-8} &= \frac{64R_{0,-1}^8 (-8296269\pi^2 R_{0,0} + 512 (375R_{0,0}^2 - 256R_{0,-1}R_{0,1}) + 105413232\pi^4)}{2835} \\
R_{9,-7} &= \frac{7R_{0,-1}^7 (5636422464\pi^4 R_{0,0} + \pi^2 (248496948R_{0,-1}R_{0,1} - 260422152R_{0,0}^2) + 588245 (8R_{0,0}^3 - 21R_{0,-1}R_{0,1}))}{17280} \\
R_{9,-6} &= \frac{1}{420} R_{0,-1}^6 (-4884661760\pi^6 R_{0,0} + 96\pi^4 (3576935R_{0,0}^2 - 5150112R_{0,-1}R_{0,1}) - 96\pi^2 (132151R_{0,0}^3 - 5150112R_{0,-1}R_{0,1}R_{0,0}) \\
R_{9,-5} &= -\frac{5R_{0,-1}^5 (-115384057344\pi^8 R_{0,0} + 256\pi^6 (43995537R_{0,0}^2 - 107022755R_{0,-1}R_{0,1}) - 192\pi^4 (3403390R_{0,0}^3 - 107022755R_{0,-1}R_{0,1}R_{0,0}))}{17280} \\
R_{9,-4} &= \frac{R_{0,-1}^4 (34105R_{0,0}^6 - 1460928R_{0,-1}R_{0,1}R_{0,0}^4 + 2688000R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 92740435968\pi^{10}R_{0,0} - 19660800\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{17280} \\
R_{9,-3} &= \frac{R_{0,-1}^3 (100405690368\pi^{12}R_{0,0} - 10240\pi^{10} (1863863R_{0,0}^2 - 26026245R_{0,-1}R_{0,1}) + 23040\pi^8 (102378R_{0,0}^3 - 107022755R_{0,-1}R_{0,1}R_{0,0}))}{17280} \\
R_{9,-2} &= \frac{R_{0,-1}^2 (511R_{0,0}^8 - 272840R_{0,-1}R_{0,1}R_{0,0}^6 + 1826160R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 672000R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 58657344\pi^{10}R_{0,0} - 58657344\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{17280} \\
R_{9,-1} &= \frac{R_{0,-1} (R_{0,0}^9 - 9330R_{0,-1}R_{0,1}R_{0,0}^7 + 85050R_{0,-1}^2R_{0,1}^2R_{0,0}^5 - 29400R_{0,-1}^3R_{0,1}^3R_{0,0}^3 + 630R_{0,-1}^4R_{0,1}^4R_{0,0} - 19660800\pi^{10}R_{0,0} - 19660800\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{362880} \\
R_{9,0} &= \frac{R_{0,0}^{10}}{362880} \\
R_{9,1} &= \frac{R_{0,1} (R_{0,0}^9 - 9330R_{0,-1}R_{0,1}R_{0,0}^7 + 85050R_{0,-1}^2R_{0,1}^2R_{0,0}^5 - 29400R_{0,-1}^3R_{0,1}^3R_{0,0}^3 + 630R_{0,-1}^4R_{0,1}^4R_{0,0} - 19660800\pi^{10}R_{0,0} - 19660800\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{362880} \\
R_{9,2} &= \frac{R_{0,1}^2 (511R_{0,0}^8 - 272840R_{0,-1}R_{0,1}R_{0,0}^6 + 1826160R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 672000R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 58657344\pi^{10}R_{0,0} - 58657344\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{17280} \\
R_{9,3} &= \frac{R_{0,1}^3 (100405690368\pi^{12}R_{0,0} - 10240\pi^{10} (1863863R_{0,0}^2 - 26026245R_{0,-1}R_{0,1}) + 23040\pi^8 (102378R_{0,0}^3 - 107022755R_{0,-1}R_{0,1}R_{0,0}))}{17280} \\
R_{9,4} &= \frac{R_{0,1}^4 (34105R_{0,0}^6 - 1460928R_{0,-1}R_{0,1}R_{0,0}^4 + 2688000R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 92740435968\pi^{10}R_{0,0} - 19660800\pi^8 R_{0,-1}R_{0,1}R_{0,0}^3)}{17280} \\
R_{9,5} &= -\frac{5R_{0,1}^5 (-115384057344\pi^8 R_{0,0} + 256\pi^6 (43995537R_{0,0}^2 - 107022755R_{0,-1}R_{0,1}) - 192\pi^4 (3403390R_{0,0}^3 - 107022755R_{0,-1}R_{0,1}R_{0,0}))}{17280} \\
R_{9,6} &= \frac{1}{420} R_{0,1}^6 (-4884661760\pi^6 R_{0,0} + 96\pi^4 (3576935R_{0,0}^2 - 5150112R_{0,-1}R_{0,1}) - 96\pi^2 (132151R_{0,0}^3 - 5150112R_{0,-1}R_{0,1}R_{0,0}) \\
R_{9,7} &= \frac{7R_{0,1}^7 (5636422464\pi^4 R_{0,0} + \pi^2 (248496948R_{0,-1}R_{0,1} - 260422152R_{0,0}^2) + 588245 (8R_{0,0}^3 - 21R_{0,-1}R_{0,1}))}{17280} \\
R_{9,8} &= \frac{64R_{0,1}^8 (-8296269\pi^2 R_{0,0} + 512 (375R_{0,0}^2 - 256R_{0,-1}R_{0,1}) + 105413232\pi^4)}{2835} \\
R_{9,9} &= -\frac{9 (66164068\pi^2 - 2657205R_{0,0}) R_{0,1}^9}{4480} \\
R_{9,10} &= \frac{1562500R_{0,1}^{10}}{567}
\end{aligned}$$

$$\begin{aligned}
R_{10,-11} &= \frac{25937424601R_{0,-1}^{11}}{3628800} \\
R_{10,-10} &= -\frac{110}{567}R_{0,-1}^{10} (2079668\pi^2 - 78125R_{0,0}) \\
R_{10,-9} &= \frac{9R_{0,-1}^9 (-3192812408\pi^2 R_{0,0} + 177147 (385R_{0,0}^2 - 243R_{0,-1}R_{0,1}) + 43716377040\pi^4)}{44800} \\
R_{10,-8} &= \frac{32R_{0,-1}^8 (4397131332\pi^4 R_{0,0} + \pi^2 (158362040R_{0,-1}R_{0,1} - 185361867R_{0,0}^2) + 112640 (27R_{0,0}^3 - 64R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,-7} &= \frac{7R_{0,-1}^7 (-5124528870144\pi^6 R_{0,0} + 48\pi^4 (6736483974R_{0,0}^2 - 8274749665R_{0,-1}R_{0,1}) - 24\pi^2 (444449R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,-6} &= \frac{R_{0,-1}^6 (916925214720\pi^8 R_{0,0} - 1280\pi^6 (61218643R_{0,0}^2 - 117636192R_{0,-1}R_{0,1}) + 96\pi^4 (41267989R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,-5} &= \frac{R_{0,-1}^5 (-40744417271808\pi^{10} R_{0,0} + 7680\pi^8 (592408966R_{0,0}^2 - 2019267103R_{0,-1}R_{0,1}) - 256\pi^6 (125R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,-4} &= \frac{R_{0,-1}^4 (11 (6625R_{0,0}^6 - 522144R_{0,-1}R_{0,1}R_{0,0}^4 + 1935360R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 491520R_{0,-1}^3R_{0,1}^3) R_{0,0} + 319935R_{0,-1}^3R_{0,1}^3R_{0,0}^4 - 16170R_{0,-1}^4R_{0,1}^4)}{14175} \\
R_{10,-3} &= \frac{R_{0,-1}^3 (28501R_{0,0}^8 - 6661710R_{0,-1}R_{0,1}R_{0,0}^6 + 46646523R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 23575860R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 491520R_{0,-1}^4R_{0,1}^4)}{14175} \\
R_{10,-2} &= \frac{R_{0,-1}^2 (102726893568\pi^{16} R_{0,0} - 2097152\pi^{14} (17463R_{0,0}^2 - 3139840R_{0,-1}R_{0,1}) + 262144\pi^{12} (31863R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,-1} &= -\frac{R_{0,-1} (-R_{0,0}^{10} + 28501R_{0,-1}R_{0,1}R_{0,0}^8 - 493460R_{0,-1}^2R_{0,1}^2R_{0,0}^6 + 319935R_{0,-1}^3R_{0,1}^3R_{0,0}^4 - 16170R_{0,-1}^4R_{0,1}^4)}{3628800} \\
R_{10,0} &= \frac{R_{0,0}^{11}}{3628800} \\
R_{10,1} &= -\frac{R_{0,1} (-R_{0,0}^{10} + 28501R_{0,-1}R_{0,1}R_{0,0}^8 - 493460R_{0,-1}^2R_{0,1}^2R_{0,0}^6 + 319935R_{0,-1}^3R_{0,1}^3R_{0,0}^4 - 16170R_{0,-1}^4R_{0,1}^4)}{3628800} \\
R_{10,2} &= \frac{R_{0,1}^2 (102726893568\pi^{16} R_{0,0} - 2097152\pi^{14} (17463R_{0,0}^2 - 3139840R_{0,-1}R_{0,1}) + 262144\pi^{12} (31863R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,3} &= \frac{R_{0,1}^3 (28501R_{0,0}^8 - 6661710R_{0,-1}R_{0,1}R_{0,0}^6 + 46646523R_{0,-1}^2R_{0,1}^2R_{0,0}^4 - 23575860R_{0,-1}^3R_{0,1}^3R_{0,0}^2 - 491520R_{0,-1}^4R_{0,1}^4)}{14175} \\
R_{10,4} &= \frac{R_{0,1}^4 (11 (6625R_{0,0}^6 - 522144R_{0,-1}R_{0,1}R_{0,0}^4 + 1935360R_{0,-1}^2R_{0,1}^2R_{0,0}^2 - 491520R_{0,-1}^3R_{0,1}^3) R_{0,0} + 319935R_{0,-1}^3R_{0,1}^3R_{0,0}^4 - 16170R_{0,-1}^4R_{0,1}^4)}{14175} \\
R_{10,5} &= \frac{R_{0,1}^5 (-40744417271808\pi^{10} R_{0,0} + 7680\pi^8 (592408966R_{0,0}^2 - 2019267103R_{0,-1}R_{0,1}) - 256\pi^6 (125R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,6} &= \frac{R_{0,1}^6 (916925214720\pi^8 R_{0,0} - 1280\pi^6 (61218643R_{0,0}^2 - 117636192R_{0,-1}R_{0,1}) + 96\pi^4 (41267989R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,7} &= \frac{7R_{0,1}^7 (-5124528870144\pi^6 R_{0,0} + 48\pi^4 (6736483974R_{0,0}^2 - 8274749665R_{0,-1}R_{0,1}) - 24\pi^2 (444449R_{0,0}^3 - 112640R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,8} &= \frac{32R_{0,1}^8 (4397131332\pi^4 R_{0,0} + \pi^2 (158362040R_{0,-1}R_{0,1} - 185361867R_{0,0}^2) + 112640 (27R_{0,0}^3 - 64R_{0,-1}R_{0,1}^2))}{14175} \\
R_{10,9} &= \frac{9R_{0,1}^9 (-3192812408\pi^2 R_{0,0} + 177147 (385R_{0,0}^2 - 243R_{0,-1}R_{0,1}) + 43716377040\pi^4)}{44800} \\
R_{10,10} &= -\frac{110}{567} (2079668\pi^2 - 78125R_{0,0}) R_{0,1}^{10} \\
R_{10,11} &= \frac{25937424601R_{0,1}^{11}}{3628800}
\end{aligned}$$