On the number of spiral self-avoiding walks

1984 J. Phys. A: Math. Gen. 17 3614

(http://iopscience.iop.org/0305-4470/17/18/530)

Szekeres has also calculated the correction term in equation (6) of GW which is

$$c=-\frac{1}{4\sqrt{3}}\left(\frac{\pi}{6\sqrt{2}}+\frac{6\sqrt{2}}{\pi}\right),$$

and from this result we have calculated the correction term to equation (9), which yields, for the coefficient of $1/\sqrt{n}$ in (9)

$$\beta=-\frac{35\sqrt{3}}{16\pi}-\frac{7\pi}{12\sqrt{3}}=-2.264\,08\ldots.$$

We also wish to point out a simple connection between 'live spirals' L_n and the class C_n, which is $c_n=l_{n+1}-l_n$.

Joyce (1984) has recently obtained the complete asymptotic expansion for s_n.

References

Joyce G S 1984 *J. Phys. A: Math. Gen.* **17** L463
Guttmann A J and Wormald N C 1984 *J. Phys. A: Math. Gen.* **17** L271

Corrigendum

On the number of spiral self-avoiding walks
Guttmann A J and Wormald N C 1984 *J. Phys. A: Math. Gen.* **17** L271–4

Line 3 of the abstract should read

$$s_n=\exp[2\pi(n/3)^{1/2}]c/n^{7/4}[1+O(1/\sqrt{n})].$$

Equation (3) should read

$$s_n=\sum_{k=0}^{n-1} i_k c_{n-k}-\sum_{k=1}^{n-1} i_k i_{n-k}, \qquad \text{with } i_0=1,\ c_0=0,\ c_1=1.$$

Below equation (5), 'is defined in (1)' should be replaced by 'satisfies (1)'.

Equation (6) should read

$$c_n=(1/4\sqrt{3}\,.\,n)\exp[\pi(2n/3)^{1/2}][1+c/\sqrt{n}+O(1/n)].$$

Equation (7) should read

$$i_n=(\pi/12\sqrt{2}\,.\,n^{3/2})\exp[\pi(2n/3)^{1/2}][1+O(1/\sqrt{n})].$$