

TABULATION OF KNOTTED ARCS HAVING AT MOST 4 CROSSINGS IN THE THICKENED PUNCTURED TORUS

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We tabulate all knotted arcs with ≤ 4 crossings. Firstly, we construct all abstract graphs having no loops and at most 4 vertices of valence 4 and 2 vertices of valence 1. Secondly, we construct minimal projections of knotted arcs in the punctured torus T_0 . Finally, we restore all minimal diagrams of all knotted arcs in the thickened punctured torus $T_0 \times I$.

In the table of knotted arcs there exist no local diagrams (i.e. diagrams in the thickened disk), no annular diagrams (i.e. diagrams in the thickened annulus) and their connected sum. All knotted arcs were distinguished by a generalized version of Kauffman polynomial [1] and Casson's invariant.

Theorem. *There exist exactly 67 knotted arcs having at most 4 crossings in the thickened punctured torus $T_0 \times I$.*

REFERENCES

- [1] L. Kauffman, "State model and the Jones polynomial", *Topology*, Vol. 26, No. 3, 395-407 (1987).

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