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Counting maps on doughnuts. (English) Zbl 1301.05179

Theor. Comput. Sci. 502, 4-15 (2013).

Summary: How many maps with V vertices and E edges can be drawn on a doughnut with G holes? I solved this problem for doughnuts with up to 10 holes, and my colleagues *A. Giorgetti* and *A. Mednykh* [Ars Math. Contemp. 4, No. 2, 351–361 (2011; Zbl 1237.05104)] counted maps by number of edges alone on doughnuts with up to 11 holes. This expository paper outlines, in terms meant to be understandable by a non-specialist, the methods we used and those used by other researchers to obtain the results upon which our own research depends.

MSC:

05C30 Enumeration in graph theory

Cited in **3** Documents

Keywords:

rooted maps; unrooted maps; orientable surfaces; exact enumeration; generating functions; orbifolds

Software:

Maple

Full Text: DOI

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Edited by FIZ Karlsruhe, the European Mathematical Society and the Heidelberg Academy of Sciences and Humanities
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