

The Möbius function of $\text{PSU}(3, 2^{2^n})$

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Received 25 July 2018, accepted 10 November 2018, published online 29 January 2019

Abstract

Let G be the simple group $\text{PSU}(3, 2^{2^n})$, $n > 0$. For any subgroup H of G , we compute the Möbius function $\mu_L(H, G)$ of H in the subgroup lattice L of G , and the Möbius function $\mu_{\bar{L}}([H], [G])$ of $[H]$ in the poset \bar{L} of conjugacy classes of subgroups of G . For any prime p , we provide the Euler characteristic of the order complex of the poset of non-trivial p -subgroups of G .

Keywords: Unitary groups, Möbius function, subgroup lattice.

Math. Subj. Class.: 20G40, 20D30, 05E15, 06A07

*This research was partially supported by Ministry for Education, University and Research of Italy (MIUR) and by the Italian National Group for Algebraic and Geometric Structures and their Applications (GNSAGA - INdAM). The author would like to thank Francesca Dalla Volta and Martino Borello for their useful comments and suggestions, and Emilio Pierro for pointing out a mistake in a previous version of this paper.

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Möbiusova funkcija grupe $PSU(3, 2^{2^n})$

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Prejeto 25. julija 2018, sprejeto 10. novembra 2018, objavljeno na spletu 29. januarja 2019

Povzetek

Naj bo G enostavna grupa $PSU(3, 2^{2^n})$, $n > 0$. Za poljubno podgrupo H grupe G izračunamo Möbiusovo funkcijo $\mu_L(H, G)$ od H v mreži podgrup L grupe G in Möbiusovo funkcijo $\mu_{\bar{L}}([H], [G])$ odseka $[H]$ v delno urejeni množici \bar{L} odsekov podgrup grupe G . Za poljubno praštevilo p podamo Eulerjevo karakteristiko kompleksa urejenosti delno urejene množice netrivialnih p -podgrup grupe G .

Ključne besede: Unitarne grupe, Möbiusova funkcija, mreža podgrup.

Math. Subj. Class.: 20G40, 20D30, 05E15, 06A07

*To raziskavo sta delno podprla Ministry for Education, University and Research of Italy (MIUR) in Italian National Group for Algebraic and Geometric Structures and their Applications (GNSAGA - INdAM). Avtor bi se rad zahvalil Francescu Dall'i Volti in Martinu Borellu za njune koristne pripombe in predloge ter Emiliju Pierru za opozorilo na napako v prejšnji verziji tega članka.

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