

The Chermak-Delgado lattice of a finite group

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Abstract

Let G be a finite group and $L(G)$ be the subgroup lattice of G . The *Chermak-Delgado measure* of a subgroup H of G is defined by

$$m_G(H) = |H||C_G(H)|.$$

Let

$$m^*(G) = \max\{m_G(H) \mid H \leq G\}$$

and

$$\mathcal{CD}(G) = \{H \leq G \mid m_G(H) = m^*(G)\}.$$

Then the set $\mathcal{CD}(G)$ forms a modular, self-dual sublattice of $L(G)$, which is called the *Chermak-Delgado lattice* of G . It was first introduced by Chermak and Delgado [1], and revisited by Isaacs [2].

In this talk, we survey some recent results on this lattice.

References

- [1] A. Chermak and A. Delgado, *A measuring argument for finite groups*, Proc. AMS **107** (1989), 907-914.
- [2] I.M. Isaacs, *Finite group theory*, Amer. Math. Soc., Providence, R.I., 2008.

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