

Weights of fusion systems arising from ℓ -compact groups

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I will report on the first part of ongoing joint work with Gunter Malle and Jason Semeraro investigating weights of fusion systems associated to homotopy fixed point spaces of ℓ -compact groups. We showed that certain equations predicted by local-global conjectures in the modular representation theory of finite groups of Lie type continue to hold in the ℓ -compact setting. This led us to develop a new object: the principal block of a \mathbb{Z}_ℓ -spets, whose associated data is consistent with that of principal blocks of finite groups.

References

- [1] R. KESSAR, M. LINCKELMANN, J. LYND, AND J. SEMERARO, Weight conjectures for fusion systems. *Adv. Math.* **357** (2019), 106825. arXiv:1810.01453.
- [2] R. KESSAR, G. MALLE, AND J. SEMERARO, Weight conjectures for ℓ -compact groups and spetses. Preprint. arXiv:2003.07213, 2020.