Locally Compact C*-simple Groups

Sven Raum
Westfälische Wilhelms-Universität Münster

Germany

In this talk I present my recent work on locally compact C*-simple groups. A locally compact group is called C*-simple if its reduced group C*-algebra is simple. Work of Kalantar-Kennedy, Breuillard-Kalantar-Kennedy-Ozawa, Le Boudec, Kennedy and Haagerup gave a satisfactory shape to the theory of discrete C*-simple groups. This success motivates research on locally compact C*-simple groups.

I will shortly review recent work by the above name authors on discrete C*-simple groups. I will then show that every C*-simple group must be totally disconnected and my construction of first examples of non-discrete C*-simple groups.

References

1. E. Breuillard, M. Kalantar, M. Kennedy, and N. Ozawa, C*-simplicity and the unique trace property for discrete groups, arXiv:1410.2518.
2. M. Kalantar and M. Kennedy, Boundaries of reduced C*-algebras of discrete groups, Journal fr die Reine und Angewandte Mathematik (Crelles Journal) DOI: 10.1515/crelle-2014-0111, 2014.
3. A. Le Boudec, Discrete groups that are not C*-simple, arXiv:1507.03452.
4. Uffe Haagerup, A new look at C*-simplicity and the unique trace property of a group, arXiv:1509.05880.