INSALATE DI MATEMATICA

presents

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Rationality of finite groups:
groups with low-in-index fields of values

Abstract:

The interplay between groups and fields has been subject of study for centuries. With the rise of representation theory we were able to consider groups as acting over vector spaces in a natural way, creating a new possible connection that relates the irreducible actions to the field generated by the trace of the representation. Those fields give us a lot of information about the group itself. In this seminar we will focus on groups with field of values that are quadratic extensions of the rationals and we will define tools that allow us to detect how far the group is from a rational action.

Keywords: finite groups · representation theory · quasi-rational groups · cut groups · Gruenberg-Kegel graph

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"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)