

English summaries

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The conjecture of Köthe

This paper is devoted to Köthe's conjecture: the basic concepts to understand the statement, the historical context, the main advances towards its solution and some problems connected to it.

Keywords: non commutative rings, nil ideals, Köthe's conjecture.

MSC2010 Subject Classification: 16N40.

Gábor Lugosi

Concentration inequalities

The laws of large numbers of classical probability theory state that sums of independent random variables are, under very mild conditions, close to their expected value with large probability. Such sums are the most basic examples of random variables concentrated around their mean. More recent results reveal that such a behavior is shared by a large class of general functions of independent random variables. Such results go generally under the name of "concentration inequalities." The purpose of this article is to offer an introduction to some of these inequalities.

Keywords: concentration inequalities.

MSC2010 Subject Classification: 60E15, 60F10.

Sebastià Xambó i Descamps

Sir Michael Atiyah. His Life and Work

The purpose of this paper is to provide a general perspective of the scientific and human impact of Sir Michael Atiyah. The presentation of the main ideas and results with which he has enriched mathematical knowledge is enhanced with information about people that have had or have a relevant role in his endeavors. The “mathematical corner” (the last section) is meant to facilitate, to the more motivated readers, a more detailed appreciation of the mathematics, and mathematical physics, in Atiyah’s works. Together with the bibliographical references, we would like that this article were an invitation to explore more deeply his lucid thinking.

Keywords: K -theory, index theory, gauge theory, quantum field theory.

MSC2010 Subject Classification: 01A65, 19-03, 19L10, 19L20, 35-03, 35J45.
