

Recent Diophantine results on zeta values: a survey

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Abstract

After the proof by R. Apéry of the irrationality of $\zeta(3)$ in 1976, a number of papers have been devoted to the study of Diophantine properties of values of the Riemann zeta function at positive integers. A survey has been written by S. Fischler for the Bourbaki Seminar in November 2002. We review more recent results including contributions by S. Fischler, M. Hata, C. Krattenthaler, R. Marcovecchio, R. Murty, G. Rhin, T. Rivoal, C. Viola, W. Zudilin. We plan also to say a few words on the analog of this theory in finite characteristic, with works of M. Papanikolas, D. Thakur and others.