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Alexander S. Kechris* (kechris@caltech.edu), Department of Mathematics, 253-37,
California Institute of Technology, Pasadena, CA 91125. *Brooks' Theorem for measure-preserving
group actions*. Preliminary report.

Brooks' Theorem is a classical result in finite combinatorics asserting that, except for two obvious exceptions, the chromatic number of a finite graph is bounded by the maximum degree of the graph. As part of a larger project concerning the measurable combinatorics of graphs associated with measure-preserving actions of countable discrete groups, we study the extend to which Brooks' Theorem holds in this context. (This is joint work with Clinton Conley.) (Received August 16, 2010)