1154-03-1565

Natasha Dobrinen* (natasha.dobrinen@du.edu), University of Denver, Dept. of Mathematics, 2390 S York St, C.M. Knudson Hall, Room 300, Denver, CO 80208, and **Daniel Hathaway** (daniel.hathaway@uvm.edu), University of Vermont, Department of Mathematics and Statistics, 787 Williams Hill Rd., Burlington, VT 05405. *Barren extensions.*

In their paper,"A barren extension," Henle, Mathias, and Woodin showed that, assuming large cardinals, forcing with $([\omega]^\omega, \subseteq^*)$ over $L(\mathbb{R})$ adds no new sets of ordinals and preserves strong partition cardinals. Forcing with $([\omega]^\omega, \subseteq^*)$ produces an ultrafilter which is Ramsey: For each coloring of pairsets of ω into finitely many colors, there is a member of the ultrafilter which is homogeneous for the coloring. We asked, how special is the Ramseyness of the ultrafilter to these results? It turns out, not that much. The proofs really hinge on the availability of infinite dimensional Ramsey theory and certain other combinatorial properties of the forcing. We prove that a large class of forcings which add ultrafilters with weak partition properties yield barren extensions of $L(\mathbb{R})$. These include forcings of Baumgartner and Taylor adding ultrafilters with asymmetric partition relations, forcings of Laflamme adding weak hierarchies above weakly Ramsey ultrafilters, as well as many others. (Received September 16, 2019)