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Improved bound for AVD edge coloring

A proper edge coloring of a graph is 'adjacent vertex distinguishing' (AVD) if no two adjacent vertices see the same set of colors. Using a clever application of the Local Lemma, Hatami (2006) proved that every graph with maximum degree D and no isolated edge has an AVD edge coloring with D + 300 colors, provided D is large enough. In this talk, I will outline a proof that D + 19 colors are enough, using entropy compression techniques. This is motivated by the conjecture that D + 2 colors are in fact enough. Joint work with William Lochet.