

# Towards a general model of colour categorization which considers context

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In two previous experiments [Parraga et al, 2009 J. of Im. Sci. and Tech 53(3) 031106; Benavente et al, 2009 Perception 38 ECVF Supplement, 36] the boundaries of basic colour categories were measured. In the first experiment, samples were presented in isolation (ie on a dark background) and boundaries were measured using a yes/no paradigm. In the second, subjects adjusted the chromaticity of a sample presented on a random Mondrian background to find the boundary between pairs of adjacent colours. Results from these experiments showed significant differences but it was not possible to conclude whether this discrepancy was due to the absence/presence of a colourful background or to the differences in the paradigms used. In this work, we settle this question by repeating the first experiment (ie samples presented on a dark background) using the second paradigm. A comparison of results shows that although boundary locations are very similar, boundaries measured in context are significantly different (more diffuse) than those measured in isolation (confirmed by a Student's t-test analysis on the subject's answers statistical distributions). In addition, we completed the mapping of colour name space by measuring the boundaries between chromatic colours and the achromatic centre. With these results we completed our parametric fuzzy-sets model of colour naming space.