Title: Properties of Poulsen simplices

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Abstract: In the present thesis, we study a generalisation of concept of the Poulsen simplex in general, non-metrizable case. First, for any given simplex F we construct a new one S, containing F as a face, having dense set of extreme points and preserving some important properties of F. In the next part, we employ this construction to build up, for any given infinite cardinal κ, two simplices S_1, S_2 with dense extreme boundary, with density character equal to κ and with spaces of affine functions $A^c(S_1)$ and $A^c(S_2)$ having the same density character, but which are not affinely homeomorphic.