Deterministic and non-deterministic Hyperuniformity in the compact setting
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Hyperuniform infinite point systems in d-dimensional Euclidean space exhibit a behaviour between order and disorder. The main feature of hyperuniformity is the fact that local density fluctuations are of smaller order than for a random ("Poissonian") point configuration. We are interested in studying an analogous property of sequences of point sets in compact spaces. For convenience we study the d-dimensional unit sphere S^d. We show that QMC-designs (and especially spherical designs) are hyperuniform in our sense and we consider sequences that are generated using determinantal point processes.