

One main subject in the theory of hyperplane arrangements is the relationship between topology and combinatorics; we focus our attention on the fundamental group of complex line arrangements. A well-known work of G. Rybnikov showed the existence of line arrangements with the same combinatorics and non-isomorphic fundamental groups; this work has been very hard to be checked and we have accomplished the checking in a common work with J. Carmona, J.I. Cogolludo and M. Marco. Rybnikov's example cannot have real equations. We find real line arrangements having different embeddings in the projective plane; the real equations are conjugate in a number field.