

**Abstract:** This thesis is devoted to the outer and grounded string representations of graphs and their subclasses. A string representation of a graph is a set of strings (bounded continuous curves in a plane), where each string corresponds to one vertex of the graph. Two strings intersect each other if and only if the two corresponding vertices are adjacent in the original graph. An *outer string graph* is a graph with a string representation where strings are realized inside a disk and one endpoint of each string lies on the boundary of the disk. Similarly, in case of *grounded string graphs* the strings lie in a common half-plane with one endpoint of each string on the boundary of the half-plane. We give a summary of subclasses of grounded string graphs and prove several results about their mutual inclusions and separations. To prove those, we use an order-forcing lemma which can be used to force a particular order of the endpoints of the string on the boundary circle or boundary line. The second part of the thesis contains proof that recognition of outer string graphs is NP-hard.