Stable canonical rules

Nick Bezhanishvili

We introduce stable canonical rules and prove that each normal modal rule system is axiomatizable by stable canonical rules. This solves an open problem of Jeřábek (2009). We apply these results to construct finite refutation patterns for each modal formula that is not derivable in **K**, and prove that each normal modal logic is axiomatizable by stable canonical rules. This solves an open problem of Chagrov and Zakharyaschev (1997), but our solution is by means of multiple-conclusion rules rather than formulas.

This is joint work with Guram Bezhanishvili and Rosalie Iemhoff.