

Calculus of surfaces and Permutative Logic

Gabriele Pulcini

Ph.D. student at the Dip. of Philosophy, Univ. Roma III

January 14, 2005

Abstract

Permutative Logic (PL) has been introduced by Andreoli and Ruet in order to improve the Gaubert's *Calculus of surfaces* in the proof search prospective. After a brief description of the *Calculus of surfaces*, I'll introduce the calculus of PL explaining the reasons to consider PL instead of the Gaubert's calculus. Then I'll show the results that I have obtained in the study of PL, focusing my exposition on the relationships between PL, MLL and NL, the non-commutative version of MLL introduced by Abrusci and Ruet.