

**UIC Model Theory Seminar, October 10, 2006**

**O-minimality and correspondence maps of polycycles with  
hyperbolic singularities**

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I start by outlining one of the strategies used to establish the o-minimality of certain expansions of the real field. Working with Tobias Kaiser and Jean-Philippe Rolin, we are now trying to use apply this strategy to the correspondence maps of polycycles of planar analytic vector fields, in the case where all the singularities along the polycycle are hyperbolic. It turns out, based on Dulac's and Ilyashenko's work, that if one assumes in addition that these hyperbolic singularities are all non-resonant, then a direct application of one of the established techniques works. I will explain this result and speculate on its possible extension to the general hyperbolic case.