

I will begin by reviewing the essentials of analytic combinatorics in several variables (ACSV), highlighting the steps that have up to now required human intervention: finding the dominating point, proving minimality, contour deformation. The rest of the talk will be about effective solutions to these problems. These include rigorizing the Morse theoretic underpinnings of ACSV, using computer algebra to find critical points at infinity, complex variable methods that work for symmetric functions, and some work in progress on a general topological method for smooth denominators. For some audience members, the talk will be uncomfortably topological. On the other hand, I will include a lot of pictures, so the topology can be understood without much formal background.