1038-14-41 **Willem Veys*** (wim.veys@wis.kuleuven.be), K.U.Leuven, Dept. Wiskunde, Celestijnenlaan 200B, 3000 Leuven, Belgium. *On 'maximal' poles of zeta functions, roots of Berstein-Sato polynomials and monodromy Jordan blocks.*

To a hypersurface singularity one associates many invariants of different nature. We consider here the monodromy operator, the Berstein-Sato polynomial (or b-function), and the topological zeta function. Several properties and conjectures link these invariants. We present some results concerning the 'extremal' case of the conjectures: does a pole of maximal order of the topological zeta function induce a root of maximal multiplicity of the Bernstein-Sato polynomial and a monodromy eigenvalue with a Jordan block of maximal size? This work is in collaboration with A. Melle and T. Torrelli. (Received January 14, 2008)