1105-11-302 **David Ford**, **Sebastian Pauli*** (s_pauli@uncg.edu) and **Brian Sinclair**. *A Guide to OM algorithms.* Preliminary report.

An OM[1] algorithm is an algorithm that computes the Okutsu invariants of a polynomial Φ over a local field. The Okutsu invariants include, among other data, the ramification index and inertia degree of the irreducible factors of Φ. The data returned by the OM algorithm can be used to obtain a factorization of Φ, to find local and global integral bases, and the decomposition of ideals in global fields. Examples of OM-algorithms are the Montes algorithm and its variations and the Round Four algorithm and its variations

The process of approximating the irreducible factors of Φ in Montes algorithm can be regarded as a process of partitioning the set of its zeros. We present a Montes algorithm following this approach and show how it ties in with of Okutsu and Maclane. [1]By convention OM stands for the regular expression (Ore+Okutsu)(MacLane+Montes). (Received September 23, 2014)