1064-13-86   **Claudia Polini** and **Yu Xie*** (`yxie@nd.edu`), 2314 Coachmans Trail, South Bend, IN 46637.
Minimal j-multiplicity. Preliminary report.

We define the minimal j-multiplicity and almost minimal j-multiplicity for a finite module over a Noetherian local ring with any ideal filtration. For a Cohen-Macaulay module with minimal j-multiplicity or almost minimal j-multiplicity, we prove that under certain conditions, the associated graded module is Cohen-Macaulay or almost Cohen-Macaulay. Our work generalizes the results for minimal multiplicity and almost minimal multiplicity done by J. Sally, M. Rossi and G. Valla, and H. J. Wang. We also discuss the Hilbert functions and Hilbert polynomials for Cohen-Macaulay modules with minimal j-multiplicity or almost minimal j-multiplicity. (Received August 30, 2010)