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Sankar P Dutta* (dutta@math.illinois.edu), 1409 W. Green Street, Urbana, IL 61801. *The Order Ideal Conjecture*. Preliminary report.

In this talk first we introduce the Order Ideal Conjecture originating from the work of Evans & Griffith on characterization of the behavior of order ideals of minimal syzygies of modules of finite projective dimension on equicharacteristic local rings. We point out that a very special case of this conjecture on regular local rings implies the monomial conjecture due to Hochster. We derive a necessary and sufficient condition for the validity of this special case in terms of whether certain syzygies of canonical modules of normal domains possess free summands and present several aspects of this observation. Finally we extend a result of Bruns & Herzog on the order ideal theorem in equicharacteristic to mixed characteristic. (Received July 16, 2013)