



Norm Levenberg (nlevenbe@indiana.edu) Department of Mathematics, Indiana University, Bloomington, IN 47405, USA, *Plurisubharmonic Functions and Pluripotential Energy*.

ABSTRACT. A plurisubharmonic function u is a real-valued function defined on a domain in \mathbb{C}^n which is subharmonic on complex lines. The highly non-linear complex Monge-Ampere operator applied to u , when defined, yields a positive measure $(dd^c u)^n$ which reduces to the Laplacian of u in \mathbb{C} . We begin by describing some natural classes of plurisubharmonic functions in \mathbb{C}^n for $n > 1$ which resemble logarithmic potentials in the complex plane. Then we define two notions of an energy associated with a (probability) measure μ in \mathbb{C}^n which turn out to agree with one defined by Berman, Boucksom, Guedj and Zeriahi (arXiv:0907.4490) and which was introduced by them to study a variational approach to solving the complex Monge-Ampere equation $(dd^c u)^n = \mu$. This is work-in-progress with Tom Bloom of Toronto; please see his preprint arXiv:0910.4551 for one-variable motivation.