Abstract: A potential theory for the equation $(dd^c u)^m \wedge \beta^{n-m} = f \beta^n$, $1 \leq m \leq n$, is developed, where $\beta = dd^c|z|^2$ is the fundamental form in $\mathbb{C}^n$ and $f$ is a positive function or measure. The corresponding notions of $m$-capacity and $m$-subharmonic functions are introduced, and their properties are studied.

Note that, the classical potential theory is based on subharmonic functions and Laplace operator $\Delta$. The pluripotential theory constructed in the 1980s is based on plurisubharmonic functions and is related to the Monge-Ampère operator $(dd^c u)^n$. The corresponding operator $(dd^c u)^m \wedge \beta^{n-m}$, called the Hessian operator, is the Laplace operator for $m = 1$ and the Monge-Ampère operator for $m = n$. 

Date: April 12, 2013
Time: 15:40
Place: Sabancı University, Karaköy Communication Center
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