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Section:

2. Algebra

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New slicing formula

Let X be a complex analytic subset of Δ^n the unit polydisk in $\mathbb{C}^n$, of pure dimension p and let v be a psh and bounded function in Δ^p. We extend Federer's slicing formula: $\int_X \varphi(dd^c v)^p = \int_{a\in\Delta^p}[X_a](\varphi)(dd^c v)^p(a)$ where $\varphi \in \mathcal{D}(\Delta^n), [X_a](\varphi)$ is the average of φ over the slice $X_a := X \cap a \times \mathbb{C}^{n-p}$ and $(dd^c v)^p$ is the Monge-Ampère measure. Here the exceptional set is pluripolar. Applications to the extension of positive d-closed current over pluripolar sets with condition on slices will be presented. These results are joint work with H. Elmir. Reference: H. Ben Messaoud, and H. Elmir, Tranchage et prolongement des courants positifs fermés, Math. Ann. **307** 473 - 487 (1997).