abstract

COMPLEX ALGEBRAIC GEOMETRY
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Let $X\subset \P^N$ be a projective submanifold of dimension n in the complex projective space $\P^N$. Let U be a domain in the parameter space T of complete intersections of codimension m and of a given bidegree $(d_1,\dots,d_m)$ in $\P^N$, and $U^*:= \cup_{t\in U}{H_t}\subset \P^N$ be the reunion of the corresponding complete intersections. The Abel-Radon transform associates to a $\overline\partial-$closed current α of bidegree $(q+p,p)$ on $V^*:=U^*\cap X$ an holomorphic $q-$form $R(\alpha)$ on U, where $p+m=n$. After recalling the definition of locally residual currents, we show the following theorem (shown in {Fabre B., {\it Sur la transformation d'Abel-Radon des courants localement r\'esiduels}, Ann. Scuola Normale Sup. di Pisa, Cl. Sci (5) Vol. IV, Fasc. 1 (2005)}, for $p=1$ and $X=\P^N$), which generalizes the inverse Abel's theorem shown by P. Griffiths in {\it Variations on a theorem of Abel, Inv. math. 35 (1976)}:

{\it Let α be a current of bidegree $(q+p,p)$ on V^*, {\it locally residual}. If ${R}(\alpha)=0$, and $q>0$, then α extends to X in a unique way as a $\overline\partial-$closed locally residual current $\tilde\alpha$ of the same bidegree.} Moreover, if $s<p$, any $\overline \partial-$closed current of bidegree (r,s) on V^* is $\overline\partial-$cohomologous to a locally residual current of the same bidegree.