1030-32-303 **Min Ru*** (minru@math.uh.edu), Department of Mathematics, University of Houston, Houston, TX 77204. *A fundamental inequality for holomorphic curves into projective varieties.*

In the talk, I'll present the following theorem:

Main Theorem. *Let $X \subset \mathbb{P}^N(\mathbb{C})$ be a smooth complex projective variety of dimension $n \geq 1$ and degree d. Let $f : \mathbb{C} \to X$ be an algebraically non-degenerate holomorphic map, and let $\mathbf{f} = (f_0, \ldots, f_N)$ be the reduced representation of f. Define, for every $z \in \mathbb{C}$,*

$$c_j(z) = \log \frac{\|f(z)\|}{|f_j(z)|}, 0 \leq j \leq N,$$

and let $\mathbf{c}(z) = (c_0(z), \ldots, c_N(z))$. Denote by $e_X(\mathbf{c})$ the Chow weight of X with respect to $\mathbf{c}$. Let L be an ample line bundle and let $c_1(L)$ be the Chern form of L. Then, for every $\epsilon > 0$,

$$\frac{1}{d(n+1)} \int_0^{2\pi} e_X(\mathbf{c}(re^{i\theta})) \frac{d\theta}{2\pi} \leq (1+\epsilon) \int_{r_0}^{r} \frac{dt}{t} \int_{|z|<t} f^* c_1(L),$$

where the inequality holds for all $r \in (0, +\infty)$ except for a possible set E with finite Lebesgue measure.

Various consequences of the theorem, including the recent solution to the Shiffman conjecture by the author, will also be discussed. (Received August 06, 2007)