

1014-53-1259      **Liat Kessler\*** ([kessler@cims.nyu.edu](mailto:kessler@cims.nyu.edu)), 251 Mercer St., New York, NY 10012. *Holomorphic shadows in the eyes of model theory.*

We are looking for a good definition for an almost complex subvariety. To interpret 'good', we borrow the concept of a Zariski-type structure from model theory.

We define a subset of a real analytic almost complex manifold to be a *holomorphic shadow* if it is the image of a J-holomorphic real analytic map from a compact complex manifold. We explore the logic structure in which the universes are the finite Cartesian products of a compact real analytic almost complex manifold  $(M, J)$  and the closed sets are finite unions of finite products of holomorphic shadows and diagonals. We claim that this logic structure satisfies the axioms of a Zariski-type structure.

Our goal is to apply results from model theory to determine whether an almost complex structure is complex, given that the manifold admits a "large enough" family of J-holomorphic curves. (Received September 27, 2005)