1000-32-121 **Evgeny A. Poletsky*** (`eapolets@syr.edu`), 215 Carnegie Hall, Department of Mathematics, Syracuse University, Syracuse, NY 13244. *The minimum principle and disk envelopes.* Preliminary report.

Given a complex manifold Z, a projection P of Z onto another manifold M and a function ϕ on Z, the minimum principle establishes cases when the infimum of ϕ over the fibers of P is a plurisubharmonic function on M. First results of this kind were obtained by C. Kiselman.

The disk envelope of a function ϕ on a complex manifold is another function whose value at some point is equal to the minimum of integrals of ϕ over the boundaries of all analytic disks centered at this point. Disk envelopes are plurisubharmonic.

It was proved by the author that the minimum principle can be stated in a form general enough to imply the plurisubharmonicity of disk envelopes. However, it was supposed in the proof that the fibers of P are connected.

The case of disconnected fibers leads to an appearance of new manifolds associated with Z and P and elements of fundamental group Z generated by loops that extend as analytic disk in a bigger space.

In this talk we will present first results about the geometry of these objects. (Received August 20, 2004)

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