



App. A: Classical Generators: see next 2 pages

Pieces in the figure

Ordered closed paths $\delta_i \sigma_i \delta_i^{-1} = \bar{\sigma}_i$, $i = 1, \dots, r$, are *classical generators* of $\pi_1(U_z, z_0)$.

Discs, $i = 1, \dots, r$: D_i with center z_i ; all disjoint, each excludes z_0 ; b_i be on the boundary of D_i .

Clockwise orientation: Boundary of D_i is a path σ_i with initial and end point b_i ; δ_i a simple *simplicial* path: initial point z_0 and end point b_i . Assume δ_i meets none of $\sigma_1, \dots, \sigma_{i-1}, \sigma_{i+1}, \dots, \sigma_r$, and it meets σ_i only at its endpoint.

Meeting Boundary of D_0

D_0 intersections: D_0 with center z_0 ; disjoint from each D_1, \dots, D_r . Consider a_i , first intersection of δ_i and boundary σ_0 of D_0 .

Crucial ordering: Conditions on $\delta_1, \dots, \delta_r$:

- pairwise nonintersecting, except at z_0 ; and
- a_1, \dots, a_r are in order clockwise around σ_0 .

Since paths are simplicial, last condition is independent of D_0 , for D_0 sufficiently small.