

# Bers' simultaneous uniformization and complex projective structures on Riemann surfaces

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By the Riemann uniformization theorem, a Riemann surface structure on a closed surface  $S$  of genus at least two corresponds to a discrete subgroup of  $\mathrm{PSL}(2, \mathbb{R})$  isomorphic to  $\pi_1(S)$ . More generally, by Bers' simultaneous uniformization theorem, a pair of Riemann surface structures on  $S$  with opposite orientations correspond to a (typical) discrete subgroup of  $\mathrm{PSL}(2, \mathbb{C})$  isomorphic to  $\pi_1(S)$ .

The original proof of the simultaneous uniformization theorem is given by the deformation theory of conformal structures by quasiconformal mappings. In this talk, we discuss an alternative proof of the simultaneous uniformization theorem, from a viewpoint of complex analytic geometry.

## References

- [1] S.Baba, "Bers' simultaneous uniformization theorem and the intersection of Poincaré holonomy varieties", to appear in GAFA.