1077-53-1785 **John C Loftin***, loftin@rutgers.edu, and **Michael Wolf**. *Cubic Differentials and Limits of RP^2 Structures.* Preliminary report.

In a generalization of Thurston's compactification of Teichmüller space, Anne Parreau has described a limit of a family of RP^2 structures on a closed surface in terms of the asymptotic eigenvalues of the holonomies around free loops on the surface. One may identify a convex RP^2 structure on a closed surface of genus at least 2 with a conformal structure and a holomorphic cubic differential. On a given Riemann surface Σ with cubic differential U, we investigate Parreau's asymptotic data for the convex RP^2 structure corresponding to $(\Sigma, \lambda U)$ for $\lambda \to \infty$.

For a generic cubic differential U on a Riemann surface Σ, we explicitly describe Parreau's asymptotic information for the RP^2 structure corresponding to $(\Sigma, \lambda U)$ in terms of the singular Euclidean metric $|U|^{\frac{2}{3}}$ on Σ. We also provide a conjectural formulation for any cubic differential U. The proof involves analytic techniques similar to Wolf's approach to Thurston's boundary of Teichmüller space. (Received September 20, 2011)