962-30-748 **Yohei Komori** (komori@sci.osaka-cu.ac.jp), , 558-8585 Osaka, Japan, **Toshiyuki Sugawa*** (sugawa@kusm.kyoto-u.ac.jp), , 606-8502 Kyoto, Japan, **Masaaki Wada** (wada@ics.nara-wu.ac.jp), , 630-8506 Nara, Japan, and **Yasushi Yamashita** (yamasita@ics.nara-wu.ac.jp), , 630-8506 Nara, Japan. *Computation of monodromies and Bers embedded Teichmüller spaces for once punctured tori.*

Let X be the once punctured torus given by the quotient $(\mathbb{C} \setminus L)/L$, where L is the additive lattice group generated by 1 and τ over the integers for a point τ in the upper half plane. By the classical correspondence, we see that the four-times punctured sphere $Y = \mathbb{C} \setminus \{0, 1, \lambda\}$ is commensurable with X, where λ is the value of the elliptic modular function at τ. For a bounded projective structure (holomorphic quadratic differential) on X, we can compute the monodromy by numerically solving the differential equation

$$2y'' + \left(\frac{t + c(\lambda)}{z(z-1)(z-\lambda)} + \frac{1}{2z^2(z-1)^2} + \frac{1}{2(z-\lambda)^2} \right) y = 0$$

on Y, where t is a parameter corresponding to the projective structure and $c(\lambda)$ is the accessary parameter determined by λ. By using this method, we compute pleating rays corresponding to simple closed geodesics in X, and then visualize the shape of the Bers embedded Teichmüller space of X in the t-plane. As a by-product, we can compute the accessary parameter $c(\lambda)$ numerically. The above method also enables us to visualize the discreteness locus of monodromy groups by employing the method developed by Yamashita and Wada. (Received September 25, 2000)