1116-57-616   **Tian Yang*** (`yangtian@math.stanford.edu`), Building 380, Stanford, CA 94305. *On type-preserving representations of the four-punctured sphere group.*

We give counterexamples to a conjecture of Bowditch that if a non-elementary type-preserving representation $\rho : \pi_1(\Sigma_{g,n}) \to PSL(2;\mathbb{R})$ of a punctured surface group sends every non-peripheral simple closed curve to a hyperbolic element, then ρ must be Fuchsian. The counterexamples come from relative Euler class ± 1 representations of the four-punctured sphere group. As a related result, we show that the mapping class group action on each non-extremal component of the character space of type-preserving representations of the four-punctured sphere group is ergodic. The main tool we use is Penner's lengths coordinates of the decorated character spaces defined by Kashaev. (Received September 09, 2015)