

Generalized cluster algebra and Teichmüller spaces of Riemann surfaces with orbifold points of arbitrary order (joint with L.Chekhov)

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We generalize a new class of cluster type mutations for which exchange transformations are given by reciprocal polynomials. In the case of second-order polynomials of the form $x+2\cos\pi/n_o+x^{-1}$ these transformations are related to triangulations of Riemann surfaces of arbitrary genus with at least one hole/puncture and with an arbitrary number of orbifold points of arbitrary integer orders n_o . We propose the dual graph description of the corresponding Teichmüller spaces, construct the Poisson algebra of the Teichmüller space coordinates, propose the combinatorial description of the corresponding geodesic functions and find the mapping class group transformations.