

Quivers at the boundary and the TQFT approach to meromorphic connections

(Philip Boalch, GIQ, Lille 2026)

I'll summarize the TQFT “algebraic quasi-Hamiltonian” construction of the topological symplectic varieties (character varieties of wild Riemann surfaces) 2002-2015 and explain the resulting new theory of multiplicative quiver varieties, stemming ultimately from the Martinet-Ramis wild fundamental group. If time permits I'll discuss the global Cartan matrices and the diagrams of [BY,D], generalising the notion of doubled quiver, yet still parameterising complete hyperkahler manifolds (wild non-abelian Hodge spaces, i.e. moduli spaces of wild harmonic bundles stemming from ideas of Hitchin/Corrigan-Goddard).

[B] P.B. Geometry and braiding of Stokes data; Fission and wild character varieties *Annals of Math.* 179 (2014) 301–365

[BY] P.B. & D. Yamakawa, Diagrams for nonabelian Hodge spaces on the affine line, *Comptes Rendus Mathématique* 358 (2020) no. 1, 59–65

[D] J. Douçot, Diagrams and irregular connections on the Riemann sphere, arXiv:2107.02516, 2021