Summary: We define “BPS graphs” on punctured Riemann surfaces associated with $A_{N-1}$ theories of class $S$. BPS graphs provide a bridge between two powerful frameworks for studying the spectrum of BPS states: spectral networks and BPS quivers. They arise from degenerate spectral networks at maximal intersections of walls of marginal stability on the Coulomb branch. While the BPS spectrum is ill-defined at such intersections, a BPS graph captures a useful basis of elementary BPS states. The topology of a BPS graph encodes a BPS quiver, even for higher-rank theories and for theories with certain partial punctures. BPS graphs lead to a geometric realization of the combinatorics of Fock-Goncharov $N$-triangulations and generalize them in several ways.

MSC:
81T60 Supersymmetric field theories in quantum mechanics
81T30 String and superstring theories; other extended objects (e.g., branes) in quantum field theory

Keywords:
extended supersymmetry; supersymmetric gauge theory; p-branes; M-theory

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