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Locally extended affine Lie algebras

Extended affine Lie algebras form a class of Lie algebras that includes finite-dimensional split simple Lie algebras as algebras of nullity 0. One of their important properties is the existence of a finite-dimensional Cartan (= ad-diagonalizable) subalgebra. If we do not assume finite-dimensionality of the Cartan subalgebra, one gets an interesting class of Lie algebras which includes locally finite split simple Lie algebras as algebras of nullity 0. The root system of these Lie algebras generalizes both locally finite root systems and extended affine root systems. We will discuss these new Lie algebras and root systems.