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Resonant enlargements of the Poincaré/AdS (super)algebras

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Using an efficient pattern-based computational method of generating the so-called 'resonating' algebraic structures results in a wide class of the new Lie (super)algebras. They are enlargements of the Poincaré and Antide-Sitter (super)algebras, which inherit their base (anti)commutation structure. Obtained superalgebras are rooted in the semigroup expansion method and Maxwell and Soroka-Soroka algebras, spanned by the Lorentz generator $J_a b$, translations P_a and additional Lorentz-like generator Z_{ab} . Considered configurations include cases up to two fermionic supercharges Q_{alpha}^{I} and offer interesting modifications to the gauge (super)gravity theories. Presentation is based on arxiv:2108.10304 and arxiv:2205.05921.

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