## Conservation laws and exact solutions of a generalized (3+1)-dimensional mKdV-ZK equation

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In this talk we investigate conservation laws and exact solutions of a generalized SBS (3+1)-dimensional mKdV-ZK equation that describes the behavior of weakly nonlinear ion-acoustic waves contained in magnetized electron-positron plasma which also comprises equal hot and cool components of each species. The use of the reductive perturbation procedure yields a mKdV-ZK equation that simply governs the oblique propagation of nonlinear electrostatic modes.

**Keywords:** Generalized (3+1)-dimensional mKdV-ZK equation; Lie point symmetries; Conservation laws; Noether method.