Mathematical Physics

Conformally flat Kaluza-Klein spaces, pseudo-/para-complex space forms and generalized gravitational kinks

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The equations describing the Kaluza-Klein reduction of conformally flat spaces are investigated in arbitrary dimensions. Special classes of solution related to pseudo-Kahler and para-Kahler structures are constructed and classified according to spacetime dimension, signature and gauge field rank. Remarkably, rank two solutions include gravitational kinks together with their centripetal and centrifugal deformations.

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