



Abstract From Kaluza-Klein to Non-Commutative Gauge Theories of Gravity ⁺

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Abstract: Firstly; a short reminder of the Kaluza-Klein programme and a review of the Coset Space Dimensional Reduction of higher dimensional gauge theories will be given. Then; the "fuzzy sphere" will be presented; as a representative example of a non-commutative coset as well as the construction of gauge theories on such spaces. Eventually; examples will be presented of (a) a higher dimensional Unified Theory with fuzzy coset spaces as extra dimensions; (b) gravity as a gauge theory on non-commutative spaces.



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