

## E8 geometry

*Friday 7 August 2015 14:00 (1 hour)*

We investigate exceptional generalised diffeomorphisms based on  $E_{8(8)}$  in a geometric setting. The transformations include gauge transformations for the dual gravity field. The surprising key result, which allows for a development of a tensor formalism, is that it is possible to define field-dependent transformations containing connection, which are covariant. We solve for the spin connection and construct a curvature tensor. A geometry for the Ehlers symmetry  $SL(n + 1)$  is sketched. Some related issues are discussed.

If time allows I will also discuss solution (and relaxation) of the section condition in terms of a twistor transform in a first-quantised setting.

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