

## Plebanski sectors of the Lorentzian 4-simplex amplitude

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The spin foam model is based on a BF-type action restricted by the simplicity constraint. However, the solutions to the simplicity constraint fall into five different sectors. In [1,2] it was argued that a certain mixing of these sectors and the freedom of choosing a tetrad orientation generates undesired terms in the asymptotic of the Euclidean EPRL-model and can be cured by an additional constraint. We here show that this is also the case for the Lorentzian model. This is joint work with J. Engle.

### *References*

- [1] J. Engle, *A spin-foam vertex amplitude with the correct semiclassical limit*, Phys.Lett. B724 (2013) 333-337.
- [2] J. Engle, *A proposed proper EPRL vertex amplitude*, Phys.Rev D87 (2012) 084048.

*Frontiers of Fundamental Physics 14 - FFP14,  
15-18 July 2014  
Aix Marseille University (AMU) Saint-Charles Campus, Marseille*

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