

In this thesis, we study a limit of the Kerr-(A)dS spacetime in a general dimension where an arbitrary number of its rotational parameters is set equal. The resulting metric after the limit formally splits into two parts: the first part has the form of the Kerr-NUT-(A)dS metric analogous to the metric of the entire spacetime, but only for the directions not subjected to the limit, and the second part can be interpreted as the Kähler metrics. However, this separation is only valid for tangent spaces and it is not integrable, thus it does not lead to independent manifolds. We also reconstruct the original number of explicit and hidden symmetries associated with Killing vectors and Killing tensors. Therefore, the resulting spacetime represents a special case of the generalized Kerr-NUT-(A)dS metric studied before that also retains the full Killing tower of symmetries. In $D = 6$, we present evidence of an enhanced symmetry structure after the limit. Namely, we find additional Killing vectors and show that one of the Killing tensors becomes reducible as it can be decomposed into Killing vectors.