THE PLÜCKER EMBEDDING OF GRASSMANNIAN OF LINES

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An explicit detailed computation of a formula uniformly encoding the Plücker embedding of the complex Grassmannians $G(2,n)$, for all $n \in \mathbb{N}$, will be exhibited. The formula is achieved by looking more in general at the locus of decomposable tensors in $\bigwedge^2 \mathbb{Z}[X]$, by using the notion of Hasse-Schmidt derivation on a Grassmann algebra ([1, 2]). The proof will make evident that the argument generalizes in a straightforward way to find the Plücker embedding of all $G(r,n)$ at once, for all $r \geq 2$. The limit of the general formula for $(r,n) \to \infty$ will show the relationship of the subject of the talk with the Hirota's bilinear form of the KP hierarchy.

References

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[3] L. Gatto, P. Salehyan, *On Plücker Equations Characterizing Grassmann Cones*, `arXiv:1603.00510` (to appear)