

In this article, a set of alternative expressions for the Kawai-Lewellen-Tye (KLT) relation [1] are obtained by use of the Britto-Cachazo-Feng-Witten (BCFW) recursion relations [2]. To be more specific, the new expressions are systematically derived by using color-ordered gauge theory amplitudes. In actuality, these results have independently been investigated in [3]. The rewritings of the KLT relation are closely related to the mathematical expressions in (a) the Laplace expansion formula for determinants in terms of the Plücker coordinates and (b) the wedge product of two distinct differential forms. For modern derivation of these new KLT relations in the framework of quantum field theory in twistor space and their physical meanings, see a recent paper [4].

## References

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