In this article the author considers the so-called Cachazo-He-Yuan (CHY) formulation of scattering amplitudes [1] in four dimensions and presents a new splitting expression of the CHY Pfaffians by interpreting them as some fermionic correlators. The amplitudes of interest are $\mathcal{N}=4$ supersymmetric Einstein-Yang-Mills tree amplitudes. The author uses and extends the previously known results [2, 3] on these amplitudes and shows technical details on how the CHY Pfaffians split (or, at least, factorize) into two determinants. The upshot of the expression is given by equations (3.4) and (3.12) in the article. The results would be useful for a further understanding of the CHY formula in connection to other formulations of the scattering amplitudes which, hopefully, include loop amplitudes.

References

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