Motivated by recent developments in four-dimensional spinor-helicity formalism in twistor space, in this article, application of the spinor-helicity formalism to six-dimensional maximal super Yang-Mills amplitudes is investigated. The 3-, 4- and 5-point tree amplitudes are obtained and are rederived by use of the so-called BCFW recursion formula [1] for tree amplitudes. The six-dimensional theory has lesser restrictions than four-dimensional maximal super Yang-Mills theory in terms of chirality or holomorphicity. The results are therefore expected to be useful for off-shell continuation of the four-dimensional theory. Together with the knowledge of unitary-cut methods, these results will also be useful for the study of loop calculations in the four-dimensional theory.

References

[1] R. Britto, F. Cachazo, B. Feng, E. Witten, Phys. Rev. Lett. **94**, 181602 (2005). [hep-th/0501052].