The two-spinor formalism [1] in the twistor space is useful for the study of massless particles in four-dimensional spacetime. In this paper a systematic treatment of the two-spinor formalism is presented by use of symmetric spinors. Since any operators in the two-spinor formalism can be expressed in terms of the symmetric spinors, the computer algebra developed in this paper [2] provides a powerful computational tool. Tutorials for the algebra are also given in the paper, see Sec.3.

References

[1] R. Penrose and W. Rindler, *Spinors and Spacetime*, Volume 1, Cambridge University Press (1984); *Spinors and Spacetime*, Volume 2, Cambridge University Press (1986).

[2] T. Bäckdahl and S. Aksteiner, *SymSpin*, a package for manipulation of symmetric spinors in *Mathematica*, http://xact.es/SymSpin/