

This thesis focuses on spinor-helicity formalism its extensions to different dimensions and its use in constructing scattering amplitudes. At first an outline of this formalism is presented in various dimensions and followed with a brief introduction to constructing amplitudes from a bottom up approach. Following these ideas we calculate possible scattering amplitudes in a theory with a single massless scalar. We further discuss the influence of spacetime dimension on allowed interactions. Lastly we focus on reducing the degrees of freedom in allowed amplitudes by adding properties that interactions should satisfy. These properties are derived from behaviour of known theories.