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A program for SU(Nc) color structure decomposition into multiplet bases using Wigner 3j and 6j coefficients and birdtrack techniques

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QCD color structure decomposition in modern event generators is usually done using non-orthogonal and overcomplete sets of bases, such as trace bases and color-flow bases. An alternative method for color structure decomposition is to use orthogonal multiplet bases, corresponding to the irreducible representations of SU(N_c). Due to the orthogonality of these basis states, this method could significantly speed up calculations of the amplitude squares. In this talk, I am going to demonstrate my recent successes in computationally implementing this basis decomposition with the aid of Wigner 3j and 6j coefficients.

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