SYMBOLIC MONTE CARLO METHOD BASED ON ORTHOGONAL POLYNOMIALS SERIES: APPLICATION TO PHASE FUNCTION

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ABSTRACT. A new Symbolic Monte Carlo (SMC) method based on series of orthogonal polynomials allows to express radiative quantities as a function of parameters that cannot be handled with usual symbolic Monte Carlo methods. In this work, the approach is illustrated with the phase function parameter: the radiative intensity is expressed as a function of the Henyey-Greenstein phase function asymmetry factor. Results show that the new SMC algorithm allows to estimate with a good accuracy the radiative intensity in all the space parameter.