PRD Redistribution Matrix in Polarized Radiative Transfer

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We present a polarized ALI method (PALI) which solves the polarized radiative transfer equation in a weak magnetic field. The PRD redistribution matrix employed accounts self-consistently for collisions. First we have a brief look at observations of scattering polarization in the solar spectrum to get an idea of possible applications. Then, we consider the physical problem which is solved, discuss the redistribution matrix, introduce the basic idea of the numerical method and compare the results with a previous, more simplified treatment of PRD.