PRD radiative transfer

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Partial redistribution in frequency (or PRD) provides a general description of the problem of photon correlation during the process of absorption/re-emission by a group of atoms. Since the 70's the effects of PRD have been successfully taken into account in the field of stellar modelling. The "basics" of PRD will be presented. Then, we shall review some of the most important astrophysical applications (e.g. the formation of solar chromospheric resonance lines, or the emission spectrum of solar prominences). We shall further discuss in some details the numerical implementation of so-called standard PRD effects in the non–LTE radiation transfer problem.