

Session 3

Influence of Thomson Scattering Redistribution on Resonance Line Polarization

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Thomson scattering of line photons by electrons at rest is frequency coherent. However, when thermal motion of electrons is accounted for the scattered line photons get redistributed in frequency according to the Thomson electron scattering redistribution function. In this talk we present a recent investigation on influence of Thomson electron scattering redistribution on resonance line polarization formed in spherically symmetric extended and expanding atmospheres. The concerned polarized transfer equation is solved in the comoving frame using the accelerated lambda iteration technique. We highlight the importance of including the Thomson electron scattering redistribution effects in polarized spectral line formation problems relevant to stellar atmospheres.