

# Non-LTE synthesis and inversion of the Mg I 12.32 $\mu\text{m}$ line

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Magnetic field is one of the most important physical quantities in solar physics. Mg I 12.32  $\mu\text{m}$  line is very sensitive to magnetic field, thus is suitable for measuring solar magnetic field. We employed the radiative transfer code RH 1.5D to synthesize the spectra of Mg I 12.32  $\mu\text{m}$  line based on a model atmosphere computed with the magnetohydrodynamic numerical code MURaM. We analysed Mg I 12.32  $\mu\text{m}$  line's features at various locations and the relationships between these features and physical parameters in model atmosphere. We also use an inversion code STiC to inverse synthesized spectra of Mg I 12.32  $\mu\text{m}$  line and get physical parameters of the atmosphere.