Quiescent prominence fine structure modelling

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Abstract

Unprecedented amount of detailed, high-resolution observations of the prominence fine structures provided by present space-borne and ground-based observatories represents a significant challenge for the prominence modelling. Today's models have to cope with the increasingly finer dimensions and ever better resolved dynamics of the observed fine structures. However, the increasing complexity of the prominence fine structure models opens new opportunities for the deepening of our understanding of these spectacular solar features. Currently, prominence fine structure modelling stands on three main pillars: simulations of prominence magnetic field configurations, modelling of radiative transfer in the prominence plasma, and modelling of prominence fine structure dynamics. We will review the state-of-the-art and achievements of the present models and we will try to illuminate the future directions in which these efforts will need to go in order to provide better answers to many questions posed by observations.

Keywords: prominence fine structures, prominence modelling

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