

the fact that these phenomena require the fast liberation of large amounts of energy.

How and where this energy is released depends on the topological connectivity of the magnetic field lines in the corona. The magnetic surfaces, separating independent flux systems, are the physical boundaries of different connectivity cells. They are called separatrices and their intersection is called the separator. Démoulin, Hénoux, & Mandrini (1992, *Solar Phys.*, 139, 105) developed an algorithm to derive the location of separatrices in 3D considering different sources; changes and dipoles.

In this work we model the magnetic field of active region NOAA 2776 by means of a discrete number of charges or dipoles, we derive its topology and compare it with the location of H $\alpha$  brightenings for November 5, 1980 flare.

We conclude that: 1) the topology of the active region is independent of the type of source involved in the modelling (charges or dipoles); 2) it is also independent of the number of sources, once we have determined which of them play the main role in the flare itself; 3) the fact that H $\alpha$  brightenings can be linked in pairs by lines of force that pass close to the separator gives strong support to a release of flare energy by reconnection in the separator region.

#### THEORETICAL MODELS OF SOLAR PROMINENCES

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In a previous work (Fontenla & Rovira, 1985, *Solar Phys.*, 96, 53) we have calculated solar prominence physical structures for thread models solving simultaneously the radiative transfer, statistical and ionization equilibrium and energy equations assuming a three level hydrogen atom plus continuum. A large number of models were computed for different values of the center temperature and pressure. The results give the distribution of the physical parameters as a function of the distance to the thread symmetry plane. Particularly, the computed line profiles can be compared with the observations to derive the best initial parameters that fit the plasma behavior.

In order to improve the interpretation of this phenomenon, in the present work we have considered the effect of the diffusion of neutral hydrogen relative to protons and a five level atom plus continuum. We have also taken into account the effect of the magnetic field in the thermal conduction and diffusion coefficients.

In summary, present modeling shows that all these improvements strongly modify the five level hydrogen population and the temperature and density distribution in the one dimensional prominence slab approach.

#### ASTROMETRIC MEASURES OF ASTEROIDS

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We report astrometric measures of asteroids. Observations were made using a Schmidt camera 1/1.5 m at Llano del Hato National Observatory (Mérida, Venezuela). 429 positions had been obtained corresponding to 141 asteroids, 60 of which were observed for the first time. The technique used consisted in guiding on one star. Exposing two plates by field in the following two days. Some plates were exposed continually during one hour, in other cases the exposures were interrupted once or twice, allowing for two or more traces for all moving objects on the fields. Asteroids were found using a blink instrument. Plates were measured using a PSK-2 instrument in its modality of 5  $\mu$ m resolution. The positions obtained in that way were converted in right ascension (2000.0) and declination (2000.0) with a program developed by Stock. Positions had been reported at IAU Minor Planet Center (MPC).

#### DOS EDICIONES DE UNA EXPERIENCIA DOCENTE DE PRE-GRADO EN ASTRONOMÍA

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Se presenta la currícula y los objetivos principales, sobre un curso formativo en Astronomía, en el nivel de pre-grado.

Denominado "Curso de Capacitación Básica en Astronomía", se dicta en el Instituto Politécnico Superior Gral. San Martín, de la Universidad Nacional de Rosario (UNR), y ofrece una introducción a las ciencias astronómicas para estudiantes de Ciencias Exactas con orientación científica y

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