

## Curriculum Vitae

Name: BOMMIER

First Name: Véronique

Birth: 1954 September 22, Saint-Mandé (France)

Age: 61

Sex: Female

Nationality: French

Position:

2003 - : Directeur de recherche 2ème classe au CNRS

1982-2003: Chargé de recherche 1ère classe au CNRS

1979-1982: Attaché de recherche au CNRS

1977-1979: Agrégée-Préparatrice à l'École Normale Supérieure (rue d'Ulm), service de préparation du Concours de l'Agrégation de Sciences Physiques, option Physique

1973-1977: Élève à l'École Normale Supérieure de Jeunes Filles (Sèvres)

Awards:

1982: Médaille de Bronze du CNRS

1982: Recipient of the "Donald E. Billings Award in Astro-Geophysics (Created in 1978 for the retirement of Pr Donald E. Billings of the Astro-Geophysics Department of the Boulder University (Colorado, USA), this award is yearly attributed in an international competition to a young Doctor in Solar Physics or External Geophysics).

Theses:

1977, March 28th: thèse de 3ème cycle, Paris VI University, "*Étude théorique de l'Effet Hanle: Traitement du cas de la raie  $D_3$  de l'Hélium en vue de la détermination du champ magnétique des protubérances solaires*"

1987, July 1st: thèse d'État, Paris VII University, "*Détermination du vecteur champ magnétique et de la densité électronique des protubérances solaires par interprétation de l'effet Hanle et de la dépolarisation collisionnelle*"

Other:

1977: Agrégation de Sciences Physiques, option Physique

Research interests:

2008 - : Ambiguity resolution in vector magnetic field maps derived from THEMIS data.

2005 - : UNNOFIT inversion of THEMIS data for vector magnetic field mapping.

1998 - : THEMIS observations and data treatment

1994 - : partial redistribution theory in frequency, direction and polarization, in the presence of a magnetic field

1992 - : Theoretical impact polarization due to charged particles (electrons, protons), in the frame of the semi-classical perturbative method

1990 - : Polarized radiative transfer in the presence of intermediate and strong magnetic fields (Zeeman effect, Faraday and magneto-optical effects)

1986 - : Polarized radiative transfer in the presence of weak magnetic fields (Hanle effect)

1983 - : Collisional depolarization of Hydrogen lines and electron density determination in Solar Prominences

1976 - : Theory, calculation and data interpretation of weak magnetic field effect (Hanle effect) on polarization of lines formed by radiative scattering in Solar Prominences and Corona

Meudon, 2016 February 19th

## Véronique Bommier,

born in 1954, is "ancienne élève" of the "École Normale Supérieure de Jeunes Filles". She was formed about Quantum Mechanics by Pr Cohen-Tannoudji at the "École Normale Supérieure". After her thesis about the magnetic field measurement by interpretation of the Hanle effect observed by Jean-Louis Leroy in the He I D3 line of solar prominences (thèse de 3ème cycle 28 March 1977, thèse d'État 1 July 1987), she participated to the preparation and development of the observations with the French-Italian THEMIS telescope. She was formed in radiative transfer by Pr Egidio Landi Degl'Innocenti, who developed also a Zeeman effect inversion code UNNOFIT, that V. Bommier generalized to the scan of active regions and unresolved magnetic structures. Thus, she is now an expert on all magnetic field measurements in all the various solar regions. She then applied to spatial data, HINODE/SOT/SP and recently SDO/HMI, the methods developed on THEMIS about active region magnetic field mapping. Examples can be seen in her web page :

<http://lesia.obspm.fr/perso/veronique-bommier/>

Besides, she learned methods and codes in semi-classical perturbative theory of collisions between charged particles (electron, protons) and atoms or ions, from her thesis supervisor, Sylvie Sahal-Bréchet (own thesis, 1969). She improved the method by the taking into account of the momentum transfer during the collision. Upon request by Jean Lilensten, observer and modeler of the Earth ionosphere, she developed an application to the impact polarization due to the solar energetic particles falling over the ionosphere.

She was the President of the THEMIS Scientific Advisory Committee from September 2004 to 25 May 2009, date of dissolution of the THEMIS S.L. international society. She is "Directeur de recherche de 2ème classe" at the French "Centre National de la Recherche Scientifique" (CNRS). In 1982, she was awarded the CNRS Bronze Medal and the Donald E. Billings Award in Astro-Geophysics.

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