MAGNETIC BRIGHT POINTS: FROM SMALL-SCALE DYNAMICS OVER WAVES TO LONG-TIME EFFECTS

Dominik Utz\textsuperscript{1,2}, Richard Muller\textsuperscript{3}, Otmar Kühner\textsuperscript{1}, Tom van Doorsselaere\textsuperscript{4}, Jose Ivan Campos Rozo\textsuperscript{1,5}, Norbert Magyar\textsuperscript{4}, Tanmoy Samanta\textsuperscript{6}, Petr Jelinek\textsuperscript{7}, Kilian Krikova\textsuperscript{1}

\textsuperscript{1}Institute of Physics, Karl Franzens University Graz, 8010 Graz, Austria
\textsuperscript{2}Instituto de Astrofísica de Andalucía IAA-CSIS, Granada, Spain
\textsuperscript{3}Observatoire Pic du Midi, University of Toulouse, France
\textsuperscript{4}Centre for mathematical Plasma Astrophysics CmPA, KU-Leuven, Leuven, Belgium
\textsuperscript{5}National Astronomical Observatory, National University of Colombia, Bogota, Colombia
\textsuperscript{6}School of Earth and Space Sciences, Peking University, Beijing, China
\textsuperscript{7}Institute of Physics, University of South Bohemia, Czech Republic

Magnetic Bright Points (MBPs) constitute an important ingredient in the zoo of solar magnetic features. They are identifiable in the solar photosphere as bright intergranular spots already in the continuum but with a much higher contrast level in special wavelength bands like the by molecular absorption lines dominated G-band. MBPs represent the photospheric cross-section of kG strong magnetic field concentrations and thus outlining strong vertical magnetic flux tubes. The dynamics they undergo not only influence the nearby magneto-convection but can create MHD waves of all kinds travelling into the higher solar atmosphere leading to an energy deposition and thus heating of the upper atmosphere. Besides of these dynamical effects and processes it is of interest to study their long time evolution as it can tell us about cycle dependent magneto-convection changes as well as their relationship to the global and/or local dynamo. Besides, as they are brighter than their surrounding, a variability of them in number as well as intensity might be a crucial component of the total solar irradiance variation (TSI). In the current talk we would like to give an overview of these interesting topics and their relationships to MBPs.