

Starspot detection from planetary transits observed by CoRoT

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As a planet eclipses its parent star, features on the disc of the star may be detected. For example, sunspots on active regions are darker than the average disc of the Sun, and their sizes are comparable to that of the Earth. Hence, as the planet eclipses partially or totally a dark starspot on the surface of the star its integrated luminosity will increase slightly. Therefore, by analysing the transit light curve it is possible to infer the physical properties of starspots, such as size, intensity, position, and temperature. Extra information, such as stellar rotation, differential rotation, and even magnetic activity cycles, may be obtained from observing features like these on more than on transit. Transit observations of HD 209458 were used as tests to the model and I will discuss how this model can be applied to the planetary transits detected by COROT.