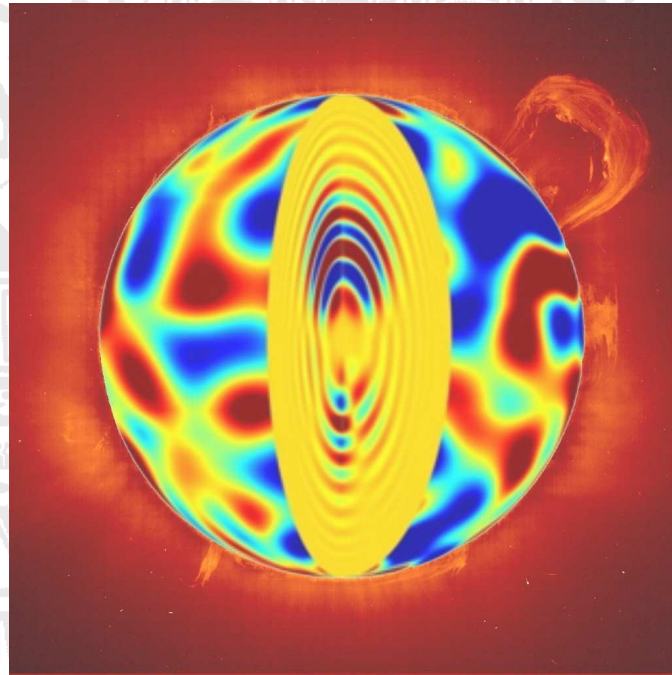


PHYSIKALISCHES KOLLOQUIUM

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IM GROßEN HÖRSAAL



THE PULSE OF THE SUN AND THE STARS: PROBING SOLAR AND STELLAR INTERIORS BY HELIO- AND ASTEROSEISMOLOGY

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The Sun and the stars are subject to sound waves that probe their interiors. Observations of these solar and stellar oscillations have emerged as a unique and powerful tool to gain information on the processes in the Sun and stars.

Through helioseismology detailed inferences of the Sun's internal structure, rotation and flows can be obtained. In addition helioseismology allows studying sunspots and other magnetic active areas on the Sun which have an important impact on our technological society through the potentially harmful solar eruptions and which may play a significant role in the variations of the Earth's climate.

However, a complete understanding of the Sun, and in particular of its magnetism, can only be obtained by understanding the internal structure and properties of the stars in general. Asteroseismology offers solving this problem by studying the interiors of the stars. As new ground- and space based observatories deliver the respective high-quality data needed, now this question can be addressed.