



PHYSIKALISCHES KOLLOQUIUM

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IM GROßEN HÖRSAAL



FROM KIRCHHOFF AND BUNSEN TO ORIGAMI IN SPACE: SEARCHING FOR HABITABLE WORLDS

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The tools of spectral analysis first developed by Kirchhoff and Bunsen in the 19th century enable us to determine the composition and physical properties of celestial bodies. Recent refinements of these techniques have yielded first glimpses into the structure and chemistry of the atmospheres of giant gas planets orbiting stars in the Solar neighborhood. At the same time, technologies are being developed that will extend the reach of spectroscopic measurements to smaller rocky planets, with the goal of probing their suitability for harboring life. Starting with Huygen's principle, I will describe the design of optical systems capable of detecting planets that are 10^{10} times fainter than their host stars, and discuss their use in the exploration of habitable worlds.

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